

THE

Desert

MAGAZINE



MARCH 1944

25 CENTS



We still think customers are mighty important

**By Your
Union Oil Minute Man**

If you work in a service station, you know that customers come in bunches, like mallard ducks.

Gloria, my Minute Maid, was off to lunch the other day when all of a sudden comes four cars. I work like a beaver, but by the time I get to the last car, guess who's there waiting for me?

No less than Moose Wilson. Moose is big, weighs about 250, and when he loses his temper, the windows for blocks around rattle.

I expect him to roar like a bull.



"Hello," he says in a little voice.

Surprised? You could have knocked me over with a small carburetor gasket. "Hello, Moose," I say when I can

recover, "anything the matter with you?"

"Oh, no," he says sadly, "I just feel kinda whopped."

Well, sir, Moose has a sad story. People don't pay attention to him any more. His housekeeper got uppity and left, for instance, and then a new grocery clerk insulted him. And just that morning, a waitress down at the Bijou Beanery told him if he didn't like the coffee, he could make it himself.



"Now, Moose," I say, "it isn't like that around here. Treating customers like human beings is a Minute Man policy."

"That so?" He steps out of his car which rocks like a boat when he leaves it.

"Yes, sir," I say.

Then I tell him how Union Oil Company figures it: nowadays

it's no trouble to sell all the gas and oil you can get. But these times aren't going to last forever. Treating customers right today—even if you can only give them a smile—is like buying a War Bond. It's going to pay dividends later on.



"By the way," I remember suddenly, "what can we do for you today?"

"Oh, that," says Moose, "I got an awful rattle some place in my engine. Nothing important, but..."

Aha, I think. I call Gloria, who



is back from lunch by this time. We look the motor over care-

fully and bounce up and down on the bumpers. Gloria, who is poking around up near the fan, suddenly straightens up.

"Mr. Wilson," she says, grinning from curl to curl, "I don't think this is standard equipment."

She is holding up a monkey wrench.



"What?" bellows Moose. He is fit to be tied. "It's that #*&!!/\$*# kid of mine. Always tinkering. I'll tan his hide! I'll... I'll... rraughh!"

He leaps for his car, slams it in gear and guns out of the station. *The same old Moose.*

"Gloria," I say, "how's that for sticking to our Minute Man policy about treating customers



right? We not only stop his car from rattling, but we also bring him back to life."

Gloria wipes some grease from her nose and grins. Mighty fine girl, Gloria.



The latchstring is always out at Union Oil Minute Man Stations. We may not be able always to provide all the gasoline you want. You may have to wait now and then for service. But you'll find that courtesy, friendliness and essential motoring services are never rationed. We're busy, yes, as busy as anyone else, but we're...

**NEVER TOO BUSY
TO BE HELPFUL**



DESERT Close-Ups

• Since sending his editorial page which appeared in December issue, Rand Henderson, on "leave of absence" from DESERT'S staff, has gone through the battle of Tarawa. As this issue goes to press he with other members of the Marine Corps is resting on a tiny island somewhere in the Southwest Pacific.

• In the Easter number DESERT will present for the first time a feature story on the Penitente Brotherhood of New Mexico. This strange survival of the Third Order of St. Francis which first was introduced into New Mexico in 1540 at time of the Spanish Conquest has stirred the imaginations of many writers who have used it not only as the subject of historical, religious and ethnological articles and books, but as the theme of stories and novels. Susan Elva Dorr, who has been interested in Southwest culture for many years, has written a sympathetic account of the Brothers of Light part of whose rites she was permitted to witness.

• In this issue Theron Marcos Trumbo has told one of the best known of New Mexico's lost treasure legends—the 18th century story of Padre La Rue's Spirit Springs colony and their great cave of gold bullion in the Organ mountains.

• In 1940 DESERT started a long series of lost mine stories, written by John D. Mitchell. New readers have been requesting the back issues containing this series but many of them no longer are available. Now DESERT is preparing another set of lost mine stories which have so many actual clues to their locations that readers will want to start right out looking for them—if they had the gas.

• Betty Woods, after a long absence from DESERT'S pages has written the story of Agnes Meader Snider, typical New Mexico pioneer, for this issue. Betty and her husband Clee both are writers. They claim Tyrone, New Mexico, as their home but much of their time in the past has been spent wandering into little known corners of the Southwest. They recently returned from Chihuahua City where Betty did a four-page assignment on the Chihuahua Fiesta for a national pictorial magazine.

CREED OF THE DESERT

By JUNE LE MERT PAXTON
Yucca Valley, California

The wind comes sweeping o'er the waste-
land
With naught to break its fitful rush;
Then settles down in quiet rhythm,
Singing softly to the brush.



Volume 7

MARCH, 1944

Number 5

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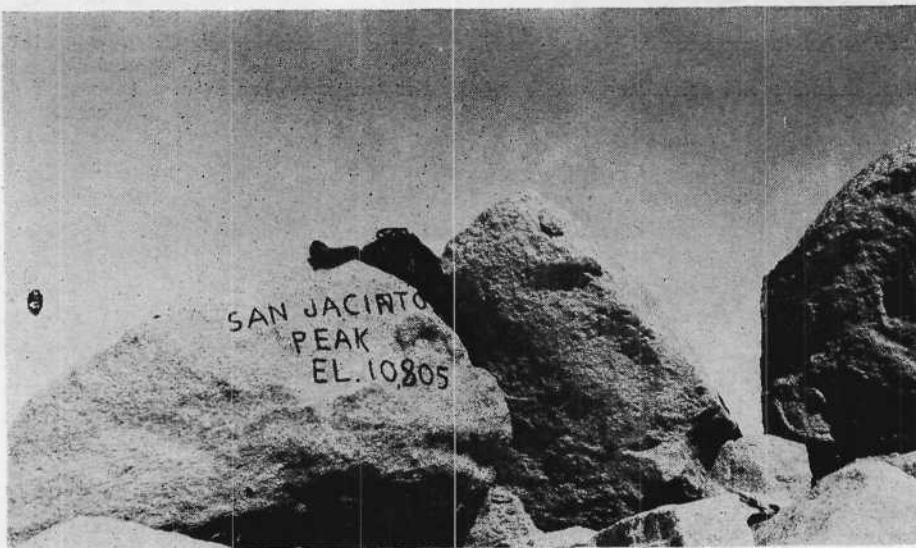
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At peak of San Jacinto mountain. Photo by Gene Hassler.

WHEN THE WIND WALKS ON THE DESERT

By MINA MORRIS SCOTT
Columbus, Indiana

When the wind walks on the desert—
Ah! I know its footsteps well—
And it casts an eerie magic
That is more than tongue can tell,
When it whispers through the sagebrush,
When it stirs the chaparral.

When the wind walks on the desert,
Few are there to hear it pass,
Where the scarlet ocotillo
Thrusts aloft its fiery mass,
As it touches rose and mallow,
As it waves the prairie grass.

When the wind walks on the desert,
In a never-ending quest,
Purple lupine shows its blossoms,
Squaw grass lifts its creamy crest;
While the ivory spike of yucca
Stands supreme above the rest.

When the wind walks on the desert,
Sighing in an undertone,
Wary wild things hark a moment,
Coyote stands still and alone;
Gopher, chipmunk, all are silent,
Like the lizard by its stone.

When the wind walks on the desert—
How few folk can ever know
Of its sweet melodic cadence,
As it whispers soft and low.
Oh, that I might hear its music
As I heard it long ago!

DUNES

By SADIE MATHERS MILLER
Los Angeles, California

The winds are raging across the dunes,
Higher and higher are piled the sands,
As they form into palaces, turrets and towers
And again recede as waves on the strands.

Beautiful, wonderful, cruel dunes
That cover the bones of long lost men,
Shifting and drifting in every breeze,
Sweeping and creeping and rising again.

Beautiful, wonderful, lonely dunes
That lie where the sun and shadows creep,
Luring men blindly across the world
And haunting their dreams when they fall asleep.

The Mountain Climber

By GENÉ HASSSLER
Oakland, California

A million boulders, and ten million more!
In geometrical design arrayed:
Prismatic slabs, spheroids, that once were core
Of Earth, when molten igneous matter swayed
The seas, and lavas tore the world apart!
A million boulders, cubed, or edged and shaped
To rhombohedrons, hemispheres, and cones,
To truncate pyramids, where ice had scraped
Terrific hardness, or, in splintered zones,
Where cleaved the granite from a crystal
heart—

A million boulders, and ten million more,
Make up the towering mountains I explore.

A million tree-trunks, and ten million more!
In shape and hardihood, a mighty throng:
Some, shafts unbroken, to the sky would soar;
Some gnarled, with twisted limb and branch, or
prong;
Some, blasted ghosts, from lightning's fearful
end!—

A million tree-trunks, cedar, oak, and pine,
Strong hardwood stands, or conifers that fight,
By granite boulders, DEATH at timberline!
With reeling banners, but with souls alight,
Their mountain birth-rights eager to defend,
A million tree-trunks, and ten million more,
Make up the towering mountains I explore.

BRIGHT DISTANCES

By IRIS LORA THORPE
Portland, Oregon

Across these sunset wastes the mountains glow,
Their granite summits broken into gold,
Each ridge and slope and crudely sculptured fold
Pastelled in amethyst and indigo . . .
Upon these transient hues my heart must feed,
On barren ledges that have never known
The quick green steps of grass, the lusty weed,
The cool uprush of sword-fern in a blown
Blue April rain . . .

Yet vision sharpens here
Where vast bright distances allure the gaze,
And dreams grow wider in the shining atmos-
phere

And the long silences of desert days;
The mountains cast strange legends on the sage,
The dusty voices of the winds relate
A thousand memories of some lost age,
And spindly cottonwoods before the gate
Stir in their meager soil and fill the sky
With silver reminiscences—that start
A sudden cry of birds, a lift of wings high
In the green forests of my heart.

CHUCKAWALLA PROSPECTOR

(On the death of Scotty Byron,
December, 1943)

By RUBY CLEMENS SHAFT
Riverside, California

Sheltered within the barren walls
Of the Chuckawalla range
The mystery man of the desert
Lived silent, alone and strange.

For fifty years or more he searched
For the bright elusive gold
With his pick axe and his shovel
Through the heat and stinging cold.

The things he loved have claimed him
now—
The mountains bare and high.
He found his gold in the sunsets
And dawns in the eastern sky.

He asked to lie near his mountains
Where the desert willows weep
And wild coyotes howl requiem
For his never-ending sleep.

Vernon Smith and Jim Macmillan really started out to add some more tonnage to a rock collection. But John Carricart sidetracked them when he told about Black Canyon in northern Mojave Desert. They doubted his incredible story, but curiosity made them willing to go on a wild goose chase. When they had power-dived over the desert roads and trudged up the dry wash which led to the basalt walls of Black Canyon, their amazement left them speechless. On the walls, on nearly every rock, prehistoric Indians had left a record of their life—about the only record which scientists have found. P. S.—On this trip Jim added only 30 pounds to his rock collection.

Sheep Hunting Artists Of Black Canyon Walls

By VERNON SMITH

JOHN CARRICART, a little red-faced man with a big voice, trudged up the dry wash of Black canyon sweeping the rocky walls with triumphant gestures and shouting back at us, "There they are, you see! Just like I told you. All you want."

Petroglyphs and pictographs were there literally by the hundreds. Almost every rock had a symbol, a figure or an animal etched on it. In some instances, old petroglyphs were defaced by those of a later date.

"My gosh!" I gasped.

John roared with raucous laughter, "You didn't believe me, did you?"

I hadn't. My mouth hung open and I stared in utter amazement. "No," I admitted sheepishly, "I have never seen anything to equal it."

"Not many white men have ever been here," John boasted.

On an impulse of curiosity I turned to my city-dweller companion, Jim Macmillan, to see how he was taking it.

Jim, a practical man, built solidly from the ground up, appeared about ready to break into a warwhoop. Either that, or three rousing cheers for the modest fee John had charged for guiding us to a Sand Dune Sage's heaven.

Jim's hobby is anything left by the Indians, no matter how large, or how small. He has all the fundamental instincts of a pack rat and will pack home anything from a broken arrowhead to an abandoned Hogan. His artifacts, strictly speaking, may not be orthodox in-so-far as art is concerned, but from the standpoint of sheer tonnage, his collection outweighs all others I have seen, including the museums that house them.

Some years ago, I took Jim with me on a field trip to San Miguel island from which he brought back 800 pounds net

weight of pestles, mortars and bones. Now we were off on another salvage collecting expedition to a district where prehistoric tribes of Indians had hunted in the Coso mountains of California.

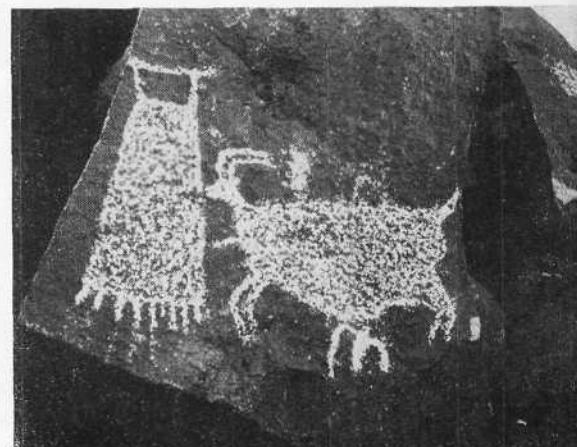
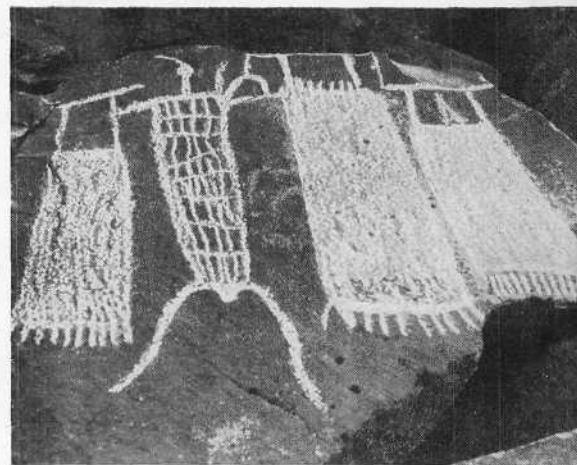
We entered the district from Darwin. At Junction ranch, where John Carricart lived, John told us the incredible story of Black canyon and agreed to act as our guide. Needless to say, we impulsively revised our original plans and set out on what appeared to be a wild goose chase—the kind that destroys your faith in human nature and leaves your car hopelessly stuck in the sand.

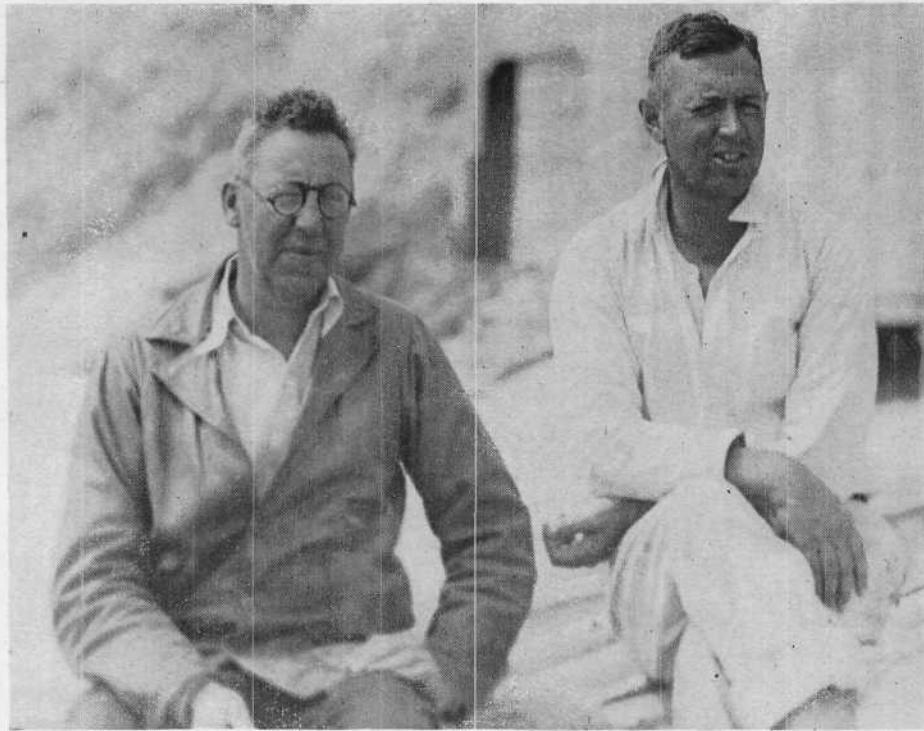
Leading the way in his truck, John power-dived over the old Nadeau road in what resembled a hurried evacuation, or a lightning getaway. We followed blindly his grey streak in a cloud of dust towards Cold springs for 11 miles, then south down a roadless valley of brush and joshua trees for two miles to the base of Louisiana butte. Here the valley widened and Black canyon cut a deep gaping wound in the earth.

Black canyon has been ignored by the government topographic map-makers as an illegitimate child of nature, for it is a place which seems to defy all reason for its existence. As a matter of fact, I was curious to know how anyone, even an old-timer like John could have found it.

John sat on the runningboard of Jim's car, watching us make camp, and explained, "Me and my brother used to herd sheep over here."

John had a twinkle in his squinting blue eyes that suggested either amusement or just a plain sarcastic frame of mind. I never could tell which. Anyhow, his searching glances gave me an inferiority complex. Not that I was ashamed of our coffee percolator, our air-mattress sleeping bags, or our fresh vegetables—not in the





Vernon Smith, left, and Jim Macmillan. They started out to enlarge a rock collection but ended at a prehistoric art collection.

least. I take great pride in my delicious camp stews. But John annoyed me until he got back on the subject.

"We brought our sheep in, in the early spring, and stayed until the water was gone." He rolled a cigarette and reflected, "That was many years ago. One spring the snow caught us. A blizzard so bad we couldn't get out of our blankets for two days. We were camped down in the can-

yon, there, out of the wind, but we damn near froze to death. Most of our sheep did. That's how I happened to find those Indian things—pictures—what do you call 'em?"

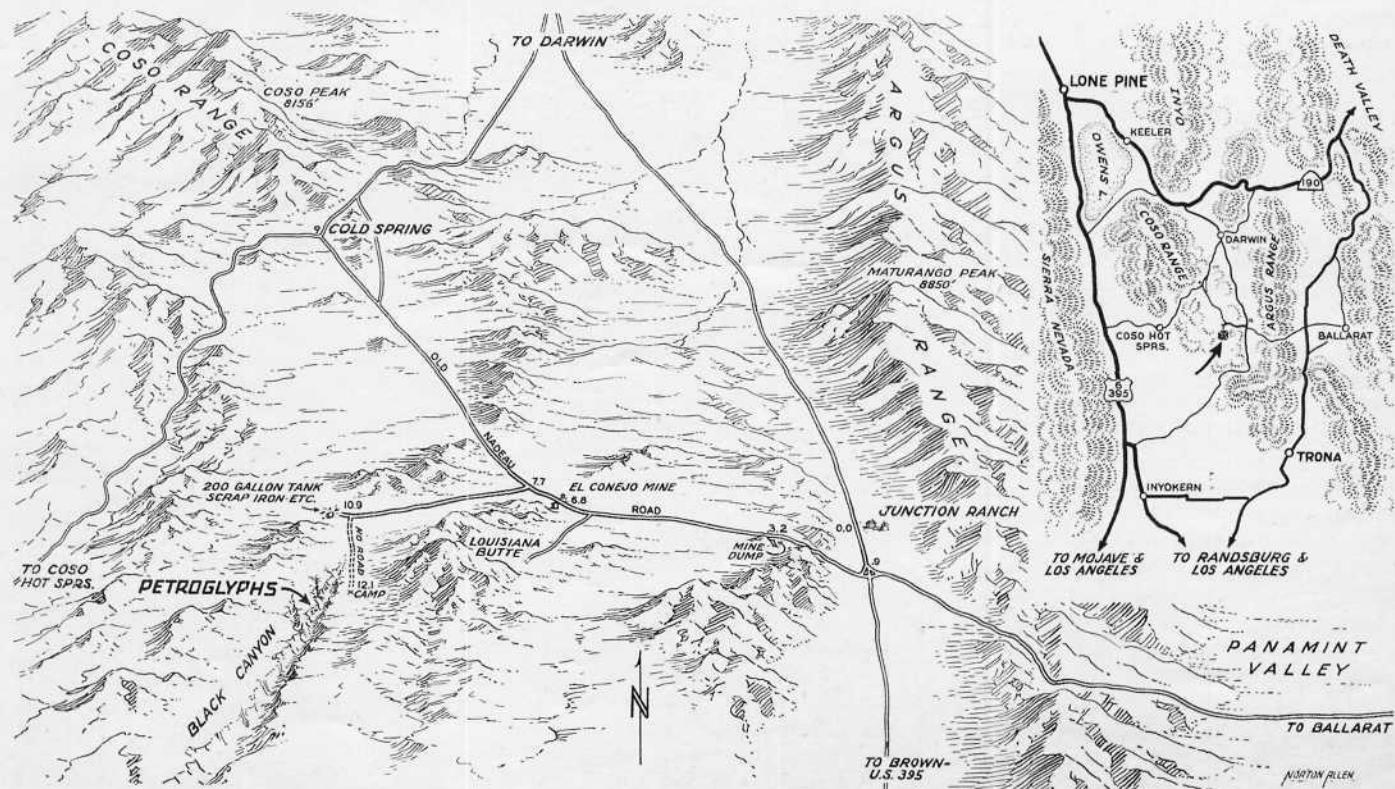
The petroglyphs told us another story. The story of a prehistoric tribe of Indians who came to the Coso mountains to hunt bighorn sheep.

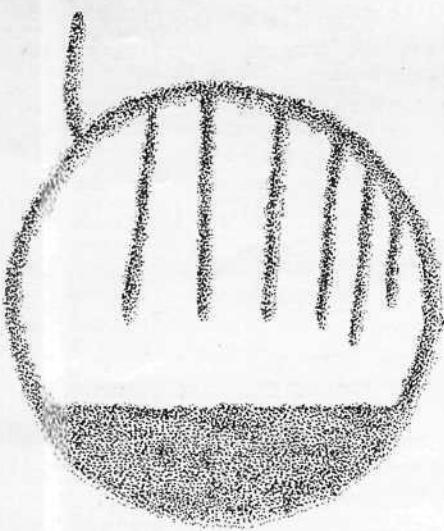
Their camps were made on the rim of

the canyon and worn trails led to the small stream below. Originally a fissure, the canyon with its basalt walls was more than 100 feet deep. The surrounding country was fairly level. Although 6000 feet above the sea, the shelf through which Black canyon cut a rugged gash extended for miles in a southerly direction, surrounded by peaks of brown granite. The soil was a deep rich loam, sprinkled with lava, abounding in wild flowers, and unusually rank vegetation for such a desert country. The district was capable of supporting great numbers of bighorn sheep, and the plateau itself was a perfect pasture for young lambs.

Many of the petroglyphs were records of the hunt. Bighorn sheep, with marks showing where the fatal blow of an arrow penetrated their bodies, predominated. Eagles, deer and antelope also were among the trophies. But most interesting of all, were the pictures of the Indians themselves. They appeared much more advanced than the coastal Indians or the neighboring Mojaves.

By the time we had finished my well balanced, tempting repast, night closed over us with the stillness of death. Not a breath of air nor the sound of a living thing broke the silence all night long. Brilliant stars hung low in the sky peering into a land where the curtain of life had fallen on a chapter of history in the dim past. I lay in my sleeping bag wondering what had happened to the sheep, the deer, and antelope and where the Indians had gone. It seemed to me their lives had been the span of but a fleeting moment, a brief record of grim survival in the endless march of time.

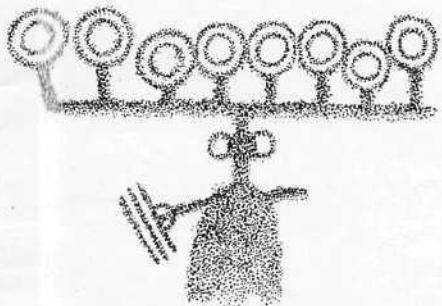




"MR. RAINLAKE"

The breath of dawn ushered in the next day with a gentle breeze rustling through the joshua tree above us, and while the blue haze gave way to a rising sun, the crisp air was permeated with the tempting aroma of coffee and frying bacon.

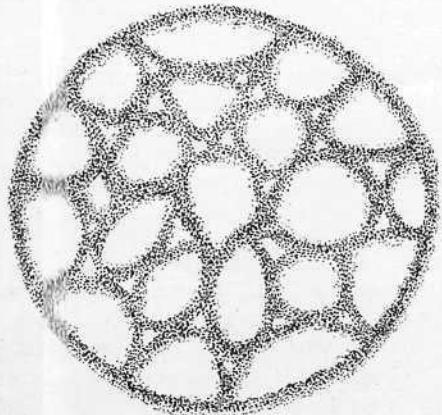
After breakfast Jim gave vent to months of pent up energy by touring the ancient campgrounds while I photographed in the canyon.



"MR. SINGER"

I began where a lateral ravine entered the main canyon, forming a wedge-like point of boulders. On it was a three-foot figure dressed in a garment extending to below the knees and surrounded by reptiles. This obviously was intended for the god of crawling creatures who protected the campers from harm.

On the floor of the canyon I found a



"MR. BEEMAN"

figure 20 inches high, apparently the likeness of a woman. The checked pattern of her garment, which came to her ankles, appeared on many other such figures. In all probability women were forbidden the use of other designs, leaving a more liberal selection to the choice of the men.

Without exception all the pictures of people were shown dressed in these long robes. Bighorn sheep must have been the main source of supply, for numbers of these garments were shown in the making. One in particular, stretched on a frame was shown with a sheep. This easily could be mistaken for a rug, woven from the wool of the animal. However, when one takes into consideration the bighorn sheep is a short, straight-haired animal, and none of the garments so depicted were shown with patterns, a more logical conclusion would be that it is a hide being tanned.

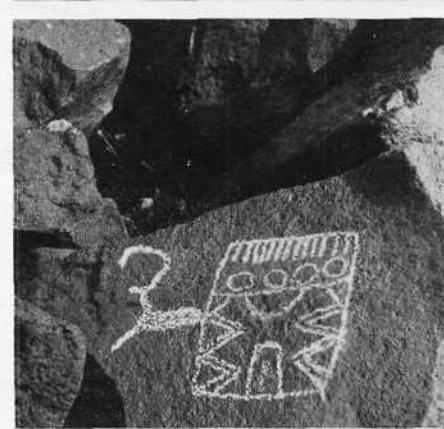
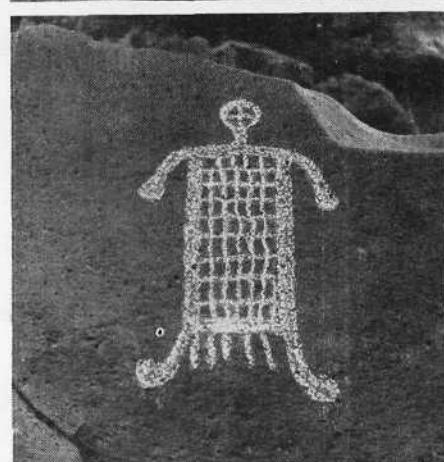
Three such hides were shown on another rock with a woman, joined one to the other by a line. The joining line almost invariably denotes possession. In this instance the woman was the proud possessor of three new spring dresses. Which, by the way, brings me to the disturbing thought that the women may have tried their hand at engraving while their braves were afield. In fact, I strongly suspect that was the case, for some of the figures were undoubtedly caricatures, a variety of good old back fence gossip with a marked tendency towards Rabelaisian humor.

Many of the groupings were intended to tell some kind of story. One showing a bighorn sheep with a lamb, the center of a circle of dancers, told of a thanksgiving celebration that was held.

Symbols were most numerous of all. Some I had to copy in my notebook for nothing short of a helicopter could be used to photograph them. They appeared with figures, singly, and in numbers. No two were alike. One interpretation is that they represent the name of a person or his mark of identification. The design, too, probably was used on his garment, and its presence on a rock told of his visit to the locality.

It takes little stretch of the imagination to see in one circle rain falling on a lake. This man's name could have been Rain-Falling-On-A-Lake, or, Mr. Rainlake, as we would say. Another one resembling honeycomb might be Mr. Beeman's calling card. And another, Mr. Acorn. And still another, Mr. Houseman, Mr. Star, Dr. Singer, and so on. In any event, it's fun to try to figure them out, and still more fun to discover them.

The second day in camp an ominous storm gathered and we had to beat a hasty retreat to John's ranch. Jim had to come away with only one trophy, a rock with a single bighorn sheep etched on it. Jim was quite disappointed and wants to go back. The trip added only 30 pounds more to his collection.





From the expression on the owlet's fantastic face one would think he had caught the kangaroo rat himself.

DEEP IN THE southeast corner of New Mexico, on the little-used desert road between Columbus and El Paso, Texas, lies a long-forgotten rancho. Its rusty windmill, creaking and groaning in the gusty restless wind, pumps nothing but air to the dry tank where thirsty cattle once came to water. Tumbleweeds, not steers, race about the ghostly corral. In a rude log shed hang an empty trunk, an ancient saddle, a single stirrup.

Slowly the desert reclaims what once was desert. Seed by seed mesquite and yucca slip under the sagging fences. Rare cloudbursts wash away old foundations. Sand erodes and drifts and covers. A bleached and lonely skeleton lies the little rancho under the heedless sky.

But although abandoned by men, the ranch's every inch is tenanted by infinite forms of desert life.

Last spring, Sis (my wife) and I decided to confine our weekend "birding" to the little rancho and its sandy environs.

Here we could find the material for a photographic cross-section of desert bird-life which would be fairly representative of the entire Southwestern area.

On a glorious afternoon early in May we began our ornithological reconnoitering. After two hours of dusty driving we had arrived in our venerable Buick to within a few yards of the ranch's corral gate when, for the third time that afternoon, we bogged down in the betraying sand. Extricating ourselves from beneath the jumble of camera equipment, food and water with which the car was loaded we began shoveling away the loose sand. Hardly had we begun the odious task when from the top of a tall yucca not 50 feet from the car flew a great, grey-brown, silent bird. Forgetting sand and shovel we rushed to investigate. Cradled in the yucca's shaggy arms was a large nest. I quickly returned to the car for a stepladder to see if the nest was occupied. It was! There in lofty solitude sat the three fierce,

When George and Sis arrived at the rancho, it appeared deserted—in fact, it looked like the perfect setting for a haunted-house story. Later when the silence of the night suddenly was broken with hooting, screaming, barking and whistling, further realism was added to the scene. Flashlights revealed the weird sounds to be the protests of Western Horned Owlets. Scientists call them *Bubo virginianus pallidescens*, the sub-species name referring to the pale coloring as compared with others of the same species, such as the Arctic, Montana, Northwestern, Dusky and Pacific horned owls. These are the only large owls with ear-tufts or "horns"—they grow to nearly two feet in length. The males (as male readers would suspect) have a shorter series of deep resonant hoots. The rhythm usually is — hoo, hoo-oo, hoo, hoo; while the females extend it—hoo, hoo-hoo-hoo, hoo-oo, hoo-oo.

Horned Owlets

By GEORGE McCLELLAND BRADT
Photos by the author

feathered babies of a pair of Western Horned Owls.

The moment I peered over the nest-edge they spread soft, broad, brownish wings, clenched white feet, snapped hard sharp beaks, and hissed in impotent, infantile rage. Not the slightest fear did they show. Perhaps they were counting on the parent bird, perched watchfully on the nearby windmill, to return to strike with vengeful talons the rash intruder. Perhaps they had never been taught to fear anything as singular as a soldier-ornithologist. Or what is even more likely, the three, great-eyed hunters-to-be probably were so excited at the prospect of trying out their brand new falcons on a real live victim (me) that they had forgotten to be afraid.

As much as I regretted it I had to disappoint the eager little creatures for I had no desire to become a proving ground for

owl talons. Still, I wanted to examine the contents of the nest, and secure a close-up of one of its occupants. It appeared I would have to pay dearly for my notes and pictures this day. I pulled on a pair of heavy gloves and "closed in." The ensuing battle was fierce but short. I managed to knock to the ground for later study three freshly-killed kangaroo rats, the hind-quarters of two cottontails, innumerable jackrabbit feet, the wings of several mourning doves—and finally came away with one highly indignant baby owl. To photograph the furious nestling I handed it over to Sis. As I was wearing the only pair of gloves she had to hold the violent bundle of claws, beak and feathers barehanded. But I got the picture.

After separating wife from owl I returned it to the nest. We replaced the various rodent tidbits and started for the car. Once we looked back. High in their yucca home the three little birds were nodding sleepily, their amber eyes shut tight against the setting sun.

Two weeks later we again started for the deserted rancho. We planned to spend Saturday night there in order to begin the next day's exploring early. But so many times did we get stuck in the sand that it was long after sundown before we reached the sentinel-like windmill silhouetted against the starry, purple sky. Before starting to make camp we hurried to see how the little owls were faring. But except for the weird shadows caused by our flashlights the nest was empty.

In the corral were two cottonwoods—one living, the other dead. Beneath them

Sis held the violent bundle of claws, beak and feathers barehanded while George "shot" them.



In lofty solitude sat the three fierce feathered babies . . .

we deposited our duffle and were just beginning to bemoan our ornithological luck when the soft silence of the clear cool night was broken by a startling chorus of hooting, screaming, barking and whistling. Our friends were with us after all! With our flashlights we picked out all three in the dead cottonwood just above our heads. On the topmost vanes of the windmill sat

both adult owls. Two of the young birds were well out of reach of ladder and flashlight. But the third and smallest stood on a low thick branch only a few feet above the ground. It stared at us with blazing eyes, pupils contracted in the light. In its talons was the limp body of a kangaroo rat.

The fact that the young birds did not take wing when approached undoubtedly meant they had but recently left the nest. They probably were about six weeks old. Normally, fledgling horned owls do not leave the nest until they are five weeks old, and do not fly well until another five have passed. That they could get about well enough, however, was shown by the considerable altitude reached by the two highest owls. But although able to fly a short distance they probably were not yet hunting for themselves. For some time to come the parents would have to supply them with sufficient food to satisfy their voracious appetites. Between meals the owlets doubtless improved the starlit hours practicing the fine arts of flying and hunting.

To avoid annoying the owl family, and interrupting their nocturnal pursuits, Sis and I moved our duffle some distance off. We then returned to the owl-filled cottonwood to photograph the lucky possessor of the kangaroo rat as he examined his catch. From the expression on the owlet's fantastic face one would think he had captured the elusive rat himself. And we "shot" the earnest little fellow as if he were indeed the great hunter he someday would be.

Early next morning we awoke to find our rancho deserted by the owls. During the night they had drifted silently off into the desert distance.





Agnes Snider and son Bert read a letter from Bert, Jr., torpedoman on a submarine in Southwest Pacific.

Butch Cassidy still lives! Regardless of the various ends supposed to have been met by the leader of the Wild Bunch, he still lets his friends hear from him and occasionally even visits them, declares Mother Snider, who by her testimony adds another facet to the Cassidy legend. Mother Snider is the kind of pioneer you read about in fiction. At the age of 19 she rode in a wildly careening wagon pointing an empty rifle at Victorio and his Apache raiders—and although a bullet ripped through her sunbonnet she aimed the bluffing rifle as courageously as if she were holding her fire for more deadly aim.. But when Butch Cassidy came to town for an interlude between robberies he was counted as a family friend—and she hopes he will come to see them again soon.

first of Victorio's marauders were topping the hill from Alma.

More and still more Indians raced their ponies down the slope. They brandished their rifles. Their yells carried to the walls of the nearby Mogollons. Agnes looked at her father's tense white face.

"They're cutting us off," he said. "We'll never make it!"

On the long low mesa paralleling the wagon road 200 more Indians came charging the Meader wagon. Then suddenly six white men lashed their horses from the Roberts place toward the imperiled family. They raced their horses out into the face of the Apache horde. Just six neighbors who,

She Defied Victorio With an Empty Rifle

By BETTY WOODS

THE UNEASY bawl of cattle coming towards the Meader ranch house warned that something was wrong in the desert valley on this bright New Mexico morning. Spring was bursting in the willow and cottonwood buds along the Frisco river on the last day of April, 1880. Yet pretty 19-year-old Agnes Meader felt an ill-boding hanging over the cedar-dotted range country.

"Look," she pointed as the family watched the restless cattle. "Here comes a man riding lickety-larrup—it's Mr. Lambert."

"Get over to Roberts' cabin!" he yelled. "The Apaches are coming!"

Mr. Meader whacked the team to the wagon. Agnes snatched a gun. Her mother and sister grabbed a few provisions. They all leaped into the wagon. Meader lashed the horses into a run towards the Roberts place a mile away. He kept laying on the whip, for already the



*Present day Apaches, first and second generation removed from Victorio.
Notice "Keep Out" sign over door of home.*

like the Meaders had come into this desert-bathed valley to make homes. But six gallant devils who thought nothing of their own lives when Agnes, her mother and sister might be dragged from that wagon while the father was being scalped.

This reckless half dozen threw themselves squarely in between the Meaders and the Apaches. Their rifles began picking Indians from the backs of sweating horses. This brought a thousand Apache bullets spattering haphazardly around them.

Agnes, sitting in the front seat with her father, held a heavy rifle on the attackers. But the rifle was empty! With nervous fingers the girl fumbled at the cartridge belt her father wore. The wagon bounced and swayed so wildly she couldn't load her gun. A bullet whizzed past Mr. Meader's head, cutting off a wisp of hair. A second bullet ripped through the cape of Agnes's sunbonnet. Still the girl pointed the bluffing rifle at the on-coming Apaches as though she were holding her fire for more deadly aim if they dared charge closer.

At last the wagon reached the cabin. Two other families, the Colters and the Roberts were "forted up" in the small adobe house.

"I never thought we'd make it," breathed Agnes, unbelievably.

"We wouldn't have, if it hadn't been for Wilcox, Skelt Williams and the other four," declared Mrs. Meader. "They saved our lives."

Quickly the Indians surrounded the little stronghold. Agnes and her mother then noticed the scarcity of water in the house. A few steps away from the back door ran an irrigation ditch.

"Hurry," Mrs. Meader urged Agnes and the others. "Hurry and fill every available vessel with water before the Indians turn it out of the ditch."

While the Apaches took potshots at them, the women raced from ditch to door, filling every possible container with water. Just as Agnes filled the last bucket, the water began to fall.

Then on the mesa above the cabin came Victorio himself, riding a white horse. The Apache leader's dark round face, framed by a long bob held down with a red band tied about his head, glared hatred for all white people. He raised his hand and waved a white cloth. It was not a sign of peace, but a signal to his warriors on the opposite mesa to attack. Now the siege of Roberts' cabin began in earnest.

All day blood-curdling yells and bullets beat against the thick solid walls that sheltered the three families. Wilcox, one of the heroic six, was killed. Night came



Victorio, a contemporary of Geronimo, terrorized inhabitants of New Mexico, Arizona and Chihuahua until 1880. Rose collection photo.

and with it the dread of morning. Agnes felt, and so did the others, that the first streaks of dawn would bring a new fury of attack. There was no hysteria. Just cold dread of death that daylight promised. They apportioned their ammunition to the best advantage—and waited. They waited with the determination to fight as long as one of them lived.

Taking part in these preparations, Agnes remembered that the night before at this time the family had been celebrating

the successful planting of the potato patch. Not a single Indian scare had interrupted the work. Mr. Meader had called the family together and said, "Let's drink a toast to old Victorio. He didn't stop us from planting our potatoes!"

"No," Agnes thought, now, "but will we ever live to dig those potatoes?"

Agnes Meader and her family did live to harvest that potato crop. In fact, Agnes is still alive—a tall, slender woman of 80-odd adventure-packed years.

"Well," she says, in summing up the story of the siege of Roberts' cabin, "the sun came up and the only sound was the song of a cardinal. The Indians had left the country. They took their dead with them—nine in all. We went out and picked up nine pair of moccasins. It was an Apache custom to remove the moccasins of dead warriors before disposing of the bodies."

This was only one of numerous raids Victorio led against settlers. Four times within five years he had broken off reservations and renewed the Apache wars. From this day on, though, Victorio rode swiftly to his end. American troops pressed him harder and harder through the summer of 1880. Scores of his followers were slain, his son among them. With his weary, tattered raiders he escaped into Mexico. There, in September, Mexican troops attacked his band, killing Victorio with many others and scattering the rest.

For weeks "Mother Snider," as many

Leaders of Wild Bunch, some of whom spent interludes between robberies cow-punching near Alma, New Mexico. Left to right, standing—Bill Carver and Harry Logan. Seated—Harry Longabaugh, Ben Kilpatrick and George Parker, alias Jim Lowe and Butch Cassidy. Rose collection photo.





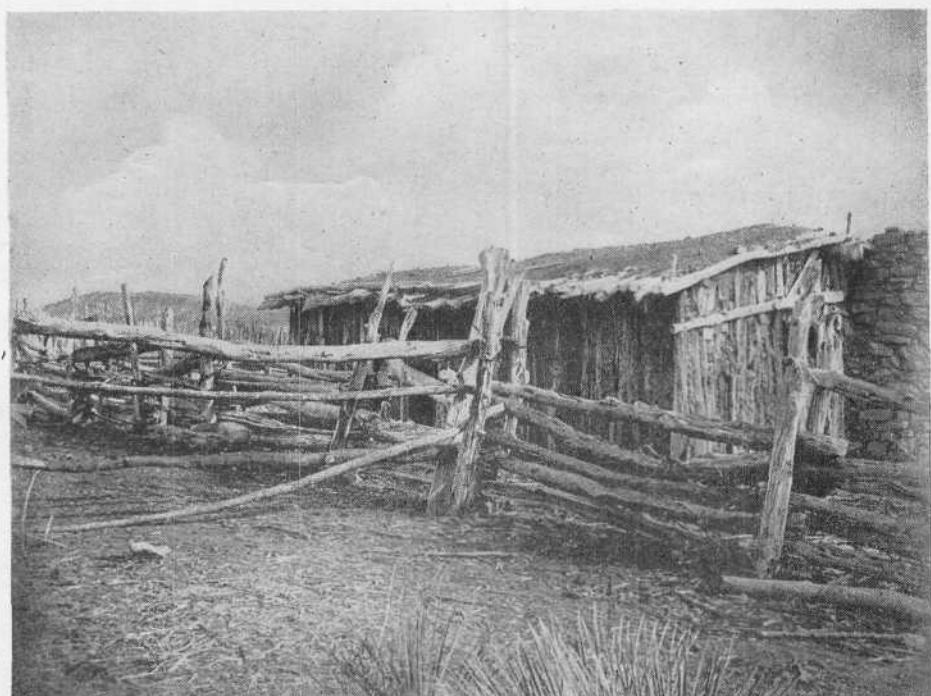
Left—Lone survivor of buildings in Alma where some of the Wild Bunch at times hid out, leading respectable lives. Below—Susan Elizabeth Meader, Mrs. Snider's mother, from a portrait taken about the time of the Apache raid, 1905. Photo courtesy Mrs. Snider.

of his, John Coffee, got a team and brought him to our house to be fixed up. Mother unravelled silk thread from a dress of hers, so John could sew up Sandy's cuts. He did a right neat job of it, too.

"Alma was young and wild, and one of the toughest towns in New Mexico. Men from the Mogollon mining camps, cowboys and a few outlaws always made the little plaza on the Frisco a place of rough and ready excitement."

Today about all that is left of Alma are humps of earth, like giant graves, which cover the foundations of houses long gone. One small false-fronted building stands under the great cottonwoods that mark the old plaza. You wonder if this adobe saloon, now empty, was owned once by "Butch" Cassidy, famous outlaw and boss of the "Wild Bunch." Butch and his gang holed up in Alma after various far-away robberies. Cassidy, like many Western desperados, was a capable all-around cowboy whenever he took a notion to punch cows anywhere from Canada to Cananea, Mexico.

Unlike most outlaws, Cassidy was not feared by the local citizenry, for Butch never was a killer. He made his hideaways more famous than any single one of his daring escapades. Two of his favorite and best known spots were "Robbers' Roost" in Utah and "The Hole-in-the-Wall," in northwest Colorado. On occasion, he'd



Roberts cabin in which Meader family "fortified up" during Victorio's terrorizing raid. From an old photo in Mrs. Snider's collection, made many years before cabin was razed.

stay with the Meaders near Alma. But don't think that the Meaders even remotely belonged to the outlaw element. Cassidy merely was a friend who had plenty of daring and craved excitement, but the Meaders didn't try to reform him. That wasn't the way of the West.

"Now," says Mrs. Snider of Jim Lowe or Butch Cassidy as he was better known, "there is a real gentleman, if there ever was one. He was wild and reckless, sure, but aren't most young fellows. He'd never take anything from poor folks. He was a kind of Robin Hood, with friends everywhere he went. Even the sheriffs might tip him off when Pinkerton men got too active."

"He was always a devil-may-care fellow, and we all remember the 20-dollar bill incident. He had just come back from robbing a Wyoming train and was buying supplies at a store in Alma. He handed the storekeeper a 20-dollar bill. The proprietor told him the bill wasn't good since it hadn't been signed by a bank president.

"What shall I do about it?" Butch wanted to know.

"I'd send it to the U. S. treasury to be signed," said the storekeeper.

"I'll just do that," said Butch.

"Weeks passed. Then suddenly the country was alive with government and Pinkerton men. The law had traced the source of that 20-dollar bill. It had a line on Butch Cassidy and his Wild Bunch at last. But a Silver City stage driver whispered the word to Butch and he and the Wild Bunch went to the rugged mountain canyons. Detectives and officers got tired waiting for Butch to show up, so they returned east without their man."

"What became of Jim Lowe or Butch Cassidy?" I asked Mother Snider. "Different writers always give him a different ending, but you should know the real one."

"He doesn't have an ending yet," she laughed.

"You mean he's still alive?"

She nodded. "You see, down through the years we've heard from him. He still comes to see us."

Mrs. Snider chuckled at my utter surprise.

"When was he here last?"

"A year ago last Fourth of July. He came to see Silver City's rodeo. My son Bert wanted to introduce him to the rodeo crowd, but Butch said, 'No. That part of my life is all in the past. I want to forget about it.'"

The old West is not dead as long as there live women like Agnes Meader Snider and men like "Butch" Cassidy.

NEW FIVE-ACRE TRACTS REPORTED OPENED IN THE VALLECITO AREA

Opening of a 600-acre public land tract in Vallecito valley, in western Colorado desert, has been announced by Secretary of Interior Harold L. Ickes, reports the San Diego Union. Tract is opened under Izaac bill which permits leasing of five-acre tracts for home, cabin, health, convalescent, recreational sites.

Vallecito area lies in the foothills of Tierra Blanca mountains about 40 miles northwest of El Centro, California, at mouth of Canebrake canyon, about 1500 feet elevation. Water sufficient for domestic use is said to be available.

Site is on the old Butterfield stage trail and is best reached by state highway 78 (which connects Kane Springs on Highway 99 with the Pacific coast highway 101) 10 miles east of Julian, through Banner, and thence southeast through Blair valley, Box canyon and Mason valley. From junction with highway 78 the road is well improved gravel, to Vallecito stage station.

Information regarding applications for leases may be obtained from U. S. district land office in Los Angeles, or general land office, department of interior, Washington, D. C.

Desert Philosopher . . .

SOLILOQUIES OF A PROSPECTOR

Drawing by Frank Adams

• Text by Dick Adams



"DESIRE FOR GOLD WAS STRONG AND REAL
WHEN I DECIDED HERE TO TARRY
BUT STRONGER NOW THE DESERT CALLS
FOR GOLD, I FIND, IS SECONDARY."

Go--Where the Gold Lies Buried

By THERON MARCOS TRUMBO

Illustration by John Hansen

THE PADRE leaned closer to the lips of the dying man, so that he might hear the low-spoken words.

"In the *Sierra de los Organos*, there is gold! I have seen it with my own eyes. It is no good for me to know of it, now. Padre . . . our people are starving . . . take them and go to the Organs. Surely they, too, will find the gold."

Gold! The padre was still young enough to feel an upward surge of desire and hope as he heard the words. The old soldier surely couldn't be wrong, for he had travelled over that whole wild northern part of New Spain. Then, too, the incredible wealth of the Aztecs was still remembered, for the year was only 1798. Padre La Rue looked out through the window to where his little flock were trying desperately to wrest a living from the drying fields of corn. Perhaps this was the answer to his prayers.

The man on the cot stirred and opened his tired eyes.

"This gold," the padre reminded him, "how can we find it? Where are these Organ mountains?"

"You must travel ten days until you come to the place where the Rio Grande cuts its way through the mountains. They call it *El Paso del Norte*. Two days' journey farther north and you will see the stone pipes of the Organ mountains . . ." Exhausted, he again wearily closed his eyes, rousing only with an effort. "At the north end there is a pass, and the Spirit Springs. Nearby you will find the *Cueva Vegas*, Cave of the Meadows, at the foot of a high cliff. The gold is there. Go, padre . . . go where the gold lies buried. You can save . . . our . . . people . . ."

With these words the old man died. The padre performed the last rites in a thoughtful mood. Go . . . where the gold lies buried . . . It seemed madness. Yet in a few months' time his people would be dying from the drought and poverty of this place. Where now were his early dreams? He remembered the day in France when he had been told that he was one of ten lucky young priests to be chosen for missionary work in the New World. He recalled the zealous thrill with which he had faced the long trip from France to this desolate little colony of hardy souls in northern Chihuahua. He had led his people wisely, becoming more than a mere

priest, more like a real father to his little family. And then the meager stream that had irrigated the fertile fields in the valley slowly dwindled, leaving the crops to dry and burn in the desert sun. Something had to be done soon.

Resolutely Padre La Rue called his people together.

"There are but two things we can do. It is impossible for us to remain here until the drought is passed. Certainly we would all die of starvation. We either can go back to Mexico and find homes among our friends . . . or we can go to the Organ mountains. Perhaps we shall find the gold of our good friend. Perhaps we shall find nothing. Which shall it be?"

There was among his people only one answer, "Gold."

It didn't take them long to prepare for the journey. Their mean little hovels held few possessions. One fine morning the caravan moved out of the village, leaving it quiet and deserted. And the *Camino Real*, that Royal Highway between Santa Fe and Mexico, was trod once more by a hopeful band toiling slowly northward.

True to the old soldier's word, after 12 arduous days they came to a broad green valley with the towering Organ mountains on its eastern horizon. Here was the abundant water of the Rio Grande, and the little Indian village of Tortugas traded them precious food for the bits of finery which were remnants of better days.

After a brief rest and a laying-in of food, they left the lush valley and continued up to the pass at the north end of the Organs. Again they were thankful to find that the old soldier's directions were accurate. There were the Spirit Springs gushing from the rocks, and there was the Cave of the Meadows. Now, where was the gold? Eagerly the men scattered into the adjoining canyons, unmindful of danger from lurking Apaches. Soon they stumbled onto chunks of milk-white quartz with evident gold content. They had found the right place!

"This is to be our home," Padre La Rue told them after he had performed mass. "We must make it as safe as possible against attack from without, and strife from within. Gold is a good thing when it is used wisely. I ask you to remember our poverty, and that we are here by God's grace. To prevent trouble, I request that

all gold be brought to me. I shall buy all supplies and equipment we need from the valley settlements and from El Paso. We must keep this gold a secret. If others learn of it, many shall aspire to possess it."

Months passed . . . and years. The rich vein of ore was found far back in the canyon, where they could tunnel into it without detection from prying eyes. A high stone wall was erected about the village, and a constant guard was kept at the gate. Inside, the little houses of stone were beehives of activity and contentment. Arrastras, or ore-crushers, were built and adobe smelters arose where once the mountain goat had held dominion. Steadily the gold bullion poured into Padre La Rue's treasure-house — the old Cave of the Meadows.

But, as he had once warned his people, gold usually brought trouble . . .

The first hint of disorder was caused by Padre La Rue's own neglect of clerical duty. When he first had come to his colony in Chihuahua, he had wanted to wait until his mission was well established before he reported to the Church in Mexico City. But the drought came, and the climaxing knowledge of the gold. In the excitement of preparing for the journey, the question of his report to Mexico City was forgotten and when he did remember it, after reaching Spirit Springs, he deemed it unwise to let the Church know about their good fortune. The revelation of the gold would only bring an avalanche of greedy treasure-seekers down upon their quiet village. So the matter of his report gradually was forgotten by Padre La Rue.

But it wasn't forgotten in Mexico City. The Church was intensely interested in the progress of each of the promising young priests. Reports came in regularly from nine of the priests, but from the tenth one in Chihuahua . . . only silence!

One Señor Maximo Milliano was sent north as a representative of the Church to find a solution to the puzzle. After a journey of many days he arrived at the site of the colony to find only crumbling adobe walls and sand-drifted barren fields. Señor Milliano was deeply vexed. Finding his way to a nearby Indian village, he faced the danger of bribing the natives to reveal their knowledge of the colony. He received for an answer, "They go . . ."

After reporting back to Mexico City,

To you who would "Go—Where the Gold Lies Buried" this map is not the key to your fortune. But it is as accurate as legend can make it. The story of the golden treasure of Padre La Rue and his 18th century colony in the Organ mountains is commonly known in southern New Mexico—but you will hear a different version at each street corner. For almost 250 years men have searched for the cave of gold bullion. There are today men who have spent most of their lives in a vain search. At least one man is certain he has definite clues that he is on the right trail.



"Señor, the mine does not belong to me . . . the gold belongs to my people . . . I would suggest that you return to Mexico City and forget us."

Maximo Milliano, with the aid of the Church, organized an expedition to search for the whereabouts of this colony which had so strangely disappeared. After a whole year's time they stumbled by chance onto the Indian village of Tortugas. Here the Indians told Milliano of the colony in the Organs—told him of the gold that had been traded them for food. At sight of some of this very gold, Milliano's eyes widened in surprise. No wonder the Church had heard nothing from Padre La Rue!

Barred from entering the stone portals of Spirit Springs, Milliano demanded to see Padre La Rue.

A few minutes later, with sinking heart, the good padre appeared on top of the wall near the gate.

"Father La Rue, as representative of the Church, I demand that you immediately deliver possession of the mine and all gold bullion on hand to the Church, to whom it belongs."

The padre gazed steadfastly down into the greedy face below him.

"Señor, the mine does not belong to me. Consequently it cannot belong to the Church. God led a dying soldier to disclose its existence to us and God has helped us to develop it. It has been our only source of livelihood these years. Since the gold belongs to my people, I refuse to deliver over one small portion to you or to the Church. I would suggest that you return to Mexico City and forget us."

In anger, Maximo Milliano left Spirit

Springs to return again to Mexico. Padre La Rue knew that his little colony no longer would be safe here in the shadow of the Organs. Soon would come the throngs of gold seekers. He sank to his bed that night with a heavy heart.

Trouble came sooner than he had anticipated. The wild Apaches' hatred had been smoldering since the desecration of their holy springs by the white men. One dark night soon after Milliano's visit, when thunder was booming over the peaks and lightning threw weird shadows in the canyons, they swooped down upon the village, showered it with deadly arrows, tossed firebrands upon the roofs, overcame the guards and rushed into the treasure-house. Brave to the last, Padre La Rue stood guard over the mass of gold. But he was

overcome . . . and died in the room where he had guarded the gold so many years.

After the padre fell, those of the colonists still alive fled to the shelter of the canyons and the peaks. Rain poured down in mad torrents and the Indians soon fled. Half-drowned people clung stubbornly to their rocky shelters and listened with fearful hearts to the tumbling waters that were breaking and dashing down the canyons.

As morning dawned, the storm ended. Wearily, hopelessly, a little group of sodden humans collected where once had been the village of Spirit Springs. The mine was gone, covered now by tons of rock and rubble. During the storm a mighty stream had flowed through the village leaving only a few rock walls to show that man once had called it his home. Padre La Rue's cave was hidden, its entrance covered with stones that would take years to remove. Filled with despair, the pathetic refugees made their way down to the valley where they were welcomed among the Mexican people who had newly colonized the banks of the Rio Grande.

But the gold was not forgotten . . .

Each generation since has had its treasure-seekers. Today this land is no longer in Chihuahua, but lies in southern New Mexico. Like all legends there must be a grain of truth in this story of Padre La Rue, although most histories fail to mention him.

It is told that in 1907 a prospector visited the mountain home of one Teso Aguirre, a descendant of one of the original Spirit Springs colony, and was shown the old cave. But he was not shown the treasure. Again, Col. A. J. Fountain of Las Cruces, New Mexico, claimed to have found an old record in either the Mesilla Mission or the Dona Ana Mission describing the richest mine in the Spanish Americas, located near the present town of Organ, New Mexico.

At a later date, a band of Spanish refugees on their way from Mexico to Spain stopped over in El Paso. They were reported to have found a church record in Mexico City, giving the exact location of the Spirit Springs mine. But even with all of these "proofs" nothing ever was found.

Today, on the streets of Las Cruces, you can hear wild tales of men who have wandered into a strange cave to find a couch of stone carved out of the rock on which are dark stains of blood . . . And always it is just around the next peak, this chimerical treasure that lures men to spend their entire lives in the rugged Organ mountains, searching and digging and prying into every cave and every crevice in the vain hope that here . . . or maybe over there . . . or somewhere . . . they will stumble onto the golden treasure of Padre La Rue!

TRUE OR FALSE

This month's quiz is a composite test of your information on desert history, geography, geology, mineralogy, wildlife, legends, literature and Indian life. If you are an average interested reader of Desert Magazine, you should score more than 10, which puts you in the Desert Rat class. If you answer 15 or more correctly, you may tell your friends you're a Sand Dune Sage, for you have proved you are a careful reader of DM and good desert books, and possibly you have answered some correctly because of personal observation or experience. A score of less than 10 should make you resolve to read your Desert more carefully, discussing the various subjects with your friends or family, or making up your own quiz as each issue arrives. Answers on page 28.

- 1—Lowest elevation in United States is foot of Bright Angel Trail in the depths of Grand Canyon. True..... False.....
- 2—Yucca baccata is a dance. True..... False.....
- 3—Crystals found in geodes usually are of quartz. True..... False.....
- 4—One of J. Frank Dobie's best known books on lost mines and treasure is "Golden Mirages." True..... False.....
- 5—Franciscan Father Garces was murdered by Indians at Yuma in 1781. True..... False.....
- 6—Craft for which Hopi and Zuni Indians have gained greatest renown in common is making of katchina dolls. True..... False.....
- 7—All "pure" sand is composed exclusively of finely ground quartz. True..... False.....
- 8—Hovenweep is the name of a group of Indian ruins on rim of Little Colorado river, northern Arizona. True..... False.....
- 9—The roadrunner, or chaparral cock, is a member of the Cuckoo family. True..... False.....
- 10—One can be sure a specimen is dolomite if it effervesces instantly in cold hydrochloric acid. True..... False.....
- 11—Gila Monster is a hibernating lizard. True..... False.....
- 12—Lost Pegleg Smith mine generally is believed to be in the Colorado desert of Southern California. True..... False.....
- 13—Desert Lily, which usually begins blooming in February and March, is found most abundantly in desert foothill areas. True..... False.....
- 14—"Down the World's Most Dangerous River," by Clyde Eddy, is the account of a scientific expedition down Colorado river in the 1920s. True..... False.....
- 15—Largest island in Great Salt Lake is Antelope Island. True..... False.....
- 16—Helium, gaseous element of argon group, occurs in natural gas in New Mexico. True..... False.....
- 17—Earliest Americans to come to the Southwest were seeking gold. True..... False.....
- 18—Geologists say the Carrizo mountains in northeastern Arizona are examples of sedimentary mountains. True..... False.....
- 19—Setting of Fierro Blanco's "Journey of the Flame" is along Camino del Diablo in Sonora, Mexico, and southern Arizona. True..... False.....
- 20—Bright red shades in such colorful Southwest areas as Grand Canyon and Bryce Canyon are due to presence of hematite. True..... False.....

For those who have adobe homes, or who are planning to build with adobe, Marshal South has some practical advice for preparing interior coatings. But the adhesive power of his mixture applies not only to its affinity for adobe walls—as Victoria discovered to her horror as she vanished into a white geyser of the gluey stuff with only a pair of diminutive heels and a shock of blond curls protruding to identify her.

Desert Refuge

By MARSHAL SOUTH

HIS IS the time of year when our Ghost Mountain climate is temperamental. One day you may shiver in a howling windstorm. And the next be shedding wraps and blankets to bask in a flood of dazzling sunshine as tingling and kindly as that of early summer. Only yesterday we were all hugging the big open fireplace, feeding mescal butts and husky chunks of juniper wood to the leaping flames. Today, in a hushed warm stillness more perfect than any day in June, the youngsters have lugged out the old cement mixing trough, launched it on the pool, and gone canoeing—using fire shovels for paddles.

But the winter storms were good to Yaquitepec this year. All the cisterns and catch pools were filled to overflowing. The rains fell and fell until we, so long in need of water, began to feel anxiety. There were ominous damp patches here and there on the inside of the walls. Big sections of exposed construction outside slumped and slid off in ruin. We began to know the fear which every primitive dweller of the desert has when rainstorms of long duration assault his adobe. Would the adobe hold? We had uneasy thoughts of finding ourselves in the plight of the mud house dwellers of Egypt who, when unprecedented Nile floods lick at their foundations, frequently find themselves groveling in a heap of gooey mud—surmounted by a collapsed roof. Adobe construction, unless plaster or cement protected, does have weak points.

But our fears were groundless. Our good stout walls, although scarred outside a little and marred in places by falls and slides, stood up nobly. And after the rain had cleared away and a few mild days had dried the earth we repaired the weak spots and took away all traces of storm from our interior finish by a good heavy coat of whitewash.

Lime whitewash is an excellent thing. Whitewash and adobe have the same affinity as bread and butter. They go together. If properly applied there is a great deal of protection for exterior walls in whitewash alone. There are various mixtures. One of the best we have run across consists of 25 pounds of hydrated lime dissolved in 10 gallons of hot water, to which is added six pounds of salt, three ounces of ground alum and about a pint of syrup-thick common boiled glue. The glue, salt, alum combination makes this whitewash stick extremely well.

If you don't have all the ingredients you can get along with just the lime and salt. In such case increase the salt amount heavily. We have found that the latter mixture makes a very durable coat, if applied thickly, about the consistency of cream.

This is a durable coat, even for other things, as Victoria discovered. She was extremely interested in our whitewashing.



Now that winter rains have filled the pool after a long spell of drought, Rider and Rudyard launch the old cement mixing trough and go canoeing, with fire shovels for oars.

Wrapped in what she calls her "bath-a-robe" she stalked about among the pails and home-made mescal brushes with a great deal of dignity and importance, tendering all sorts of advice. "You forgotted the ben-zoated-ob-soda," she said, sniffing at the little tub of mixed whitewash. Like her two brothers Victoria takes keen delight in launching shafts of sarcasm at this commercial food preservative.

"You don' incorporate benzoate of soda in whitewash," Rudyard assured her with dignity. "It's only used for pwserving mummies an' in foods for sick people."

Victoria sniffed. She drew her bath-a-robe closer about her. "Now you've forgotted another place," she said to me severely, as I teetered precariously on a chair with my brush. "Uppa there, by thee window. You are getting awfuey careless."

The outside door opened suddenly. Rider came in lugging a spiny mescal butt for the fire. "Gangway!" he cried warily. "Look out for the spikes!"

What happened then we don't quite know. We think Victoria stepped back suddenly. At any rate one moment she was standing on the floor wrapped in her three years of importance—and her bath-a-robe. The next instant she had vanished in a white geyser from which a pair of diminutive heels and a shock of blond curls stuck upward at an acute angle. There was an ear-splitting shriek which, as I toppled from my chair and Rider dropped his spiky burden, brought Tanya rushing from the next room. "Victoria—where are you?" she gasped.

"She pwecipitated herself into the whitewash," Rudyard sputtered, groping to clear his face and body from the wave of white splashes that had struck him. "She's wasted all of it."

We fished Victoria from the tub. There wasn't any lime in her eyes and none had a chance to get into her mouth because she was yelling so lustily. But otherwise she was well-coated, and the bath-a-robe was a mess. It took a good deal of warm water and much sponging down before the open fire before she looked human again. Also it cost Rider a necklace of threaded juniper berries and Rudyard three snail shells as presents to her majesty before she would consent to stop yelling. After which she curled up contentedly in bed with her doll and went to sleep. While Tanya laundered the bath-a-robe and Rudyard and I mixed more whitewash. Yes, it has good covering qualities. And it does stick.

There are other angles to Yaquitepec rains besides repairing damages and whitewashing. No one who dwells in the desert will ever quite get over the thrill of seeing new life unfold after a steady downpour has brought moisture again to a long parched earth. No matter how accustomed we may become to seeing this

miracle year after year there is always something mysterious about it. This season, in particular, the change was startling, for the dry spell had been long and hard.

When we came back to the mountain the bunch grass all appeared dead. The mescals were shrunken. Famished rats had made cruel inroads on even the struggling chollas—in some instances stripping them almost completely of their fleshy bark. In long walks we could find nothing of those showy succulents known popularly as "hen and chickens" except seemingly blackened corpses, wedged in the crevices of the rocks. It appeared that Ghost Mountain could never "come back."

Then came the rains. A few days after the first storm had subsided we went out to some of the farther ridges to collect fuel. The change in all the country was a shock. Everywhere there was a sense of slumbering life having suddenly awakened. Under the lee of almost every big rock delicate little desert ferns had unfolded their green fronds. Mosses and lichens glinted among the stones underfoot. Thin blades of grass were thrusting through the sticks and gravel of every sheltered patch. All the cacti, especially the beavertails, looked plump and swollen and alive with new strength. And in all the rock crevices where the blackened shapes of the lamented "hen and chickens" had mouldered, tiny leaf edges groped towards the sunlight. It was a sort of mass resurrection. We came home with our load of firewood feeling strangely happy. Also we had seen a snail. Maybe it doesn't seem very important, the sighting of a snail. But on Ghost Mountain the discovery and observation of a live desert snail is an event. There must be numbers of them on the mountain, for their whitened shells are fairly plentiful and Rider has collected them for years. But no matter how you search you almost never see a living specimen. The only ones we ever have found have been discovered immediately after rains. Then at rare intervals, you will find one trailing its dainty form across the damp rocks. Delicate and striking little creatures these desert snails. Although of the same family as the common garden snail, it resembles it no more than a slender songbird resembles a fat barnyard hen. These Ghost Mountain snails are jet black with fine, racehorse lines. And their delicate shells are, in life, beautifully shaded with markings of brown. These brown markings do not last long after the creature has died. They soon fade. Almost all the empty shells that Rider and Rudyard discover are a bleached, desert white. Always it is a shock to discover a snail in the savage surroundings of the desert. Like finding a fur seal somewhere in the jungles of the equator. But then, there is the equal shock of the desert tortoise. And once we found a tiny tree toad under a rock, right on the heat seared crest of Ghost Mountain.

The Yaquitepec mail sack, when it gets in, is usually well filled, these days. And that is something to rejoice over. For if there is one thing more than any other which makes life worth while on our mountaintop it is to receive letters from good friends. They are good friends too. For they uncomplainingly stand the test of waiting scandalous periods for often the briefest of replies. Somehow they seem to know that all their letters are carefully treasured, even if sheer pressure of circumstances often force just hastily scribbled postcards in return.

Mail day is always a big day, and it is a family affair. Everyone gathers round, as for a tribal council. Rider perches himself on a chair and Victoria stands on a bench, in order to see better. Rudyard usually squats precariously on the extreme edge of the table top, his little heels partly overhanging space and his whole, intent, compactly bunched body giving the impression that each instant he is going to topple backwards to disaster. But he never does. He and Victoria appoint themselves Masters of Ceremonies. They direct the order in which the mail shall be opened. And if their rulings ever are ignored pande-

monium breaks loose, with all the shoutings and gesticulations of a regiment of excited organ grinders.

All letters are read aloud, attentively listened to and commented on. Sometimes we have to go back and re-read special paragraphs. The Board is very thorough and gets a great deal of joy and excitement out of its widely spaced mail day "meetings."

Most letters are from kindred souls—often far distant—whom we may never meet, but who also feel the restless urge towards freedom and simplicity of living which is today tugging at the hearts of so many of the human race. Once in a while we get letters of censure—frank scoldings from good folks who declare that we are very wrong to have "deserted civilization." They say that we are deliberately erecting stumbling blocks in the path of progress. And when sometimes I answer and ask innocently *what* "Civilization?" And *what* "Progress?" they become very angry and their replies sound as though, while writing them, they had been jumping up and down like our enraged pocket mice do when they are squabbling over grains of corn. Some correspondents are greatly worried about the "Futures" of our youngsters. And one expressed grave concern for their health "separated as you are from all properly prepared commercial foods," she wrote, "are you sure that they are getting enough vitamins?"

That one was a poser. It brought the Board up with a short turn. Victoria wrinkled her nose: "Wita-mines? Witerminns?" she puzzled, puffing out her plump little cheeks. "Do you qwite wealize what she means?"

"Of course!" Rudyard pounded on the table with his fist like Tarzan calling for order in a council of gorillas. "Of course! Vitamins are all the goodness which is carefully extwacted fwom food so that it can be pwoperly *enriched* later on. Are you so absolutely ignorant?" He glared at Rider who was chuckling like a cheshire cat.

So that was that! We forwarded on Rudyard's definition to our correspondent, telling her also that we did not know about the vitamins on Ghost Mountain. That there *might* be a few, lurking in the farther rock caves which we had never thoroughly explored. But we did not think the children would come to any harm from them, as they were all thoroughly aware of the necessity of giving a wide berth to all dangerous looking creatures. We have not heard from her since.

Yes, mail days on Ghost Mountain are happy days. Despite "Civilization" and "vitamins" and "Progress"—even the irate correspondent who told me that "after the war" the "new, mechanized civilization will be a thing surpassing our wildest dreams of liberty and ease"—we get along very well.

If it be our personal conviction that what "Civilization" needs is not more softness and ease but more simplicity and nearness to the earth and fundamental things, at least we are not alone.

THE CLOCK

*The clock is Master. Every hour
It measures for us. And its power
Is boundless. All our food, our thought
So dearly bargained for and bought,
Is done to these tick-ticks of time,
That mark our slavery and grime
In this society today.
And they who truly would be free
Must overrule and get away
From its obsessing mastery.*

Tanya South

You're Sure to Meet the Blue Daleas

By MARY BEAL

IN ALMOST any Southwest desert region you are likely to meet one or more of the Daleas, those ornamental shrubs, or perennial herbs, of the Pea family with characteristics typically desert. When they bloom, each bush burgeons into a mass of intense blue or purple, certain to rivet attention. They are especially alluring when companioned by Golden Cassia, a beautiful cousin. (See Desert Magazine, September, 1943, issue.) Seldom does a broad golden stream of Cassia bushes sweep down from the hills without accents of blue or purple Daleas. Although the genus is widely distributed you can't go out and find a Dalea waiting for you just anywhere, but sooner or later they'll turn up.

The name Dalea was formerly the scientific label of the genus, honoring Dr. Samuel Dale, an early English physician and botanist, who wrote especially on medicinal plants. It is a suitable genus to commemorate a botanically-minded physician for its aromatic balsamy odor suggests medicinal qualities. Although science has changed the name to Parosela, Dalea is retained for common use.

The most strongly aromatic of the Daleas is not a shrub but a decumbent perennial herb commonly known as Domino Dalea, Silk Dalea, or if you like children's fancies, Persian Pussy Tails, descriptive of the fluffy flower-spikes. Unlike most of the Daleas, its flowers are pinkish or creamy. In botanical language, it is—

Parosela mollis

Its several stout basal stems divide into many leafy branches that spread out horizontally into a mat only a few inches high but much broader, from 8 inches to 2 feet across. I once found a splendid specimen 30 inches broad, but it belonged in the blue-ribbon class. The grey-green herbage is very hairy and sprinkled with dark reddish or almost black glands. The pinnate leaves have 5 to 15 wavy-margined leaflets, often edged with red or purplish, notched at apex, the glands as regularly spaced as the dots on domino pieces.

The tiny flowers, borne in a dense spike, are creamy or pinkish, the calyx so densely clothed with long pinkish hairs that its slender pointed teeth are like silky plumes, as long as the almost smothered corollas. The axis of the spike is closely crowded



Children call it Persian Pussy Tails. This pink flowered cousin of the Golden Cassia also is called Silk or Domino Dalea. Photo by the author.

with sharply-pointed, pear-shaped red glands, from claret to deep wine color, almost black. In maturity the branches tend to lift up from the ground, the flat or rounding top changing to saucer shape or like a low broad bowl.

It prefers sandy or gravelly flats and open valleys at low to moderate elevations, in the Colorado and Mojave deserts, north through the Death Valley region into Nevada. It seems to have a partiality for highways, often following along for mile after mile, thriving and prosperous-looking.

Parosela parryi

This too is a perennial herb but somewhat shrub-like, 1 to 2 feet or more high. The several to many slender purplish stems branch more or less widely, the ultimate branchlets very slender. The whole plant is hairy and dotted with glands, yellowish to very dark red. The few pinnate leaves, $\frac{1}{2}$ to $1\frac{1}{4}$ inches long, are scattered at intervals along the stems, the 6 to 10 pairs of very small leaflets greyish and felt-like, usually notched at the tip. Rather loose flower spikes, 2 to 5 inches long, end the branchlets, the corollas oddly banded purple and white, the banner extremely short. Two rows of red glands mark each side of the smooth yellowish pods. This is only occasional in the Colorado and eastern Mojave deserts but rather common in western Arizona, from low to moderate altitudes.

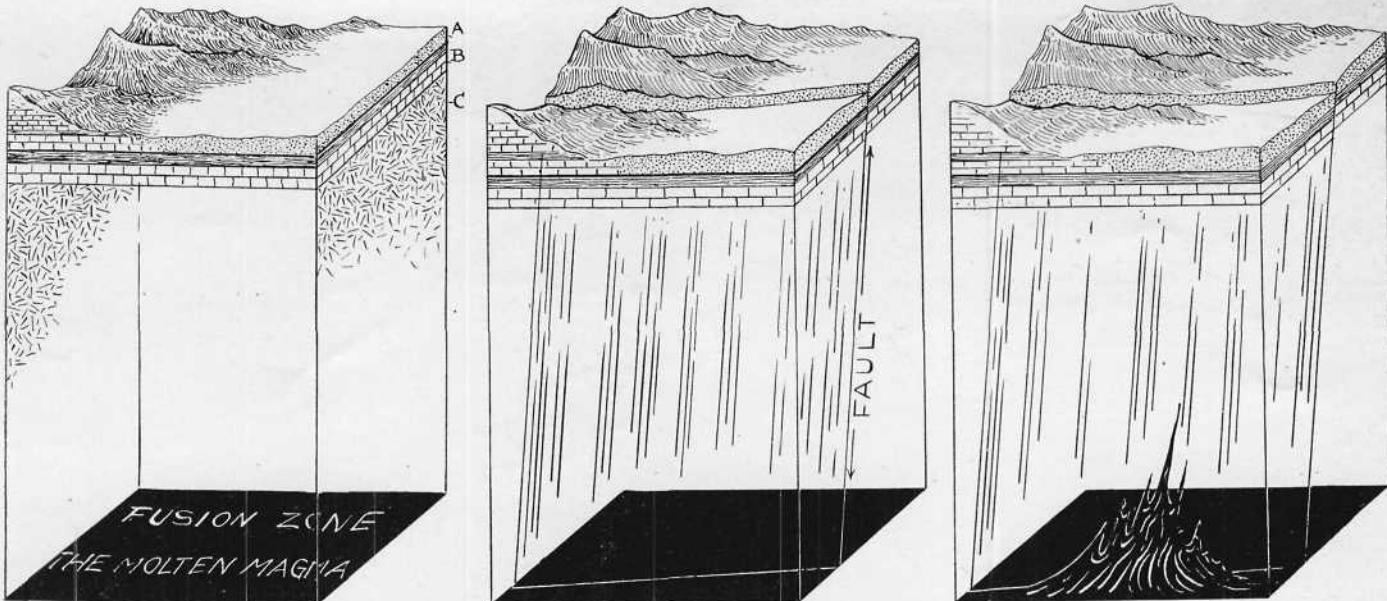
Parosela emoryi

Call it Dye-weed if you prefer a simple name. This dense whitish shrub is 1 to 4 feet high, with many intricate branches, the herbage whitened by a felt-like covering dotted with red glands. The pinnate leaves, $\frac{1}{2}$ to 1 inch long, have 3 to 7 obo-

vate leaflets, the end one much the longest. The purple flowers are clustered into a dense head, the ribbed calyx hoary with white hairs, often stained rusty, and sprinkled with bright orange glands, the elongated lobes especially hairy. The red-purple or magenta corollas stand out conspicuously against the pale herbage. But beware, if you are tempted to pluck or handle the flowers. Your fingers will be stained purplish or yellowish-brown, and your clothing too, if you are not careful. The resourceful Indian steeped the flower-heads and glandular twigs in water to make a dye, particularly useful in basket-making. It favors sandy locations and is quite common at low altitudes in the Colorado desert and Arizona, especially abundant in the Yuma area.

Parosela schottii

Mesa Dalea or Indigo Bush to many of its friends. A more slender, somewhat thorny shrub, 3 to 8 feet high, the main stems light yellowish-brown, the season's fresh stems and twigs bright yellow-green and sometimes a bit hairy, with a few dark glands or none. The simple linear leaves, $\frac{1}{2}$ to over an inch long, are commonly hairless and dotted with dark-yellow glands or the new leaves finely hairy. The flaring bell-shaped calyx is strongly ribbed, shiny and speckled with greenish-yellow glands. The indigo-blue flowers tip the branchlets in loose racemes 2 to 4 inches long. Conspicuous red or greenish glands dot the beaked pods. A frequent inhabitant of the Colorado desert on gravelly benches and mesas at low elevations, noticeably common about Palm Springs and southward over the border. Occasional in southwestern Arizona.



1—Site of Pisgah Crater before anything happened. A—Alluvium, B—Underlying strata, C—Bedrock, which continues to unknown depths, possibly 40-50 miles where it blends with molten magma.

2—The fault forms and makes a weak place in the crust of the earth. The lower margin of the fault makes a leadway upward for the escape of the magma. 3—Magma begins to rise along fault.

Basalt--the Rock from Hades

This story of lava is guaranteed by Jerry Lauder-milk to make Dante's description of the inferno sound pale. He calls it a yarn, because in order to picture for Desert Magazine readers the earth-shaking event which took place on the Mojave desert long long ago, he has turned back the calendar to the time before there was a Pisgah Crater, and to the time when a prehistoric band of Chemehuevi Indians fled in wordless terror from the horror of explosions and quakes which rocked the earth and rained down hot mud and ripped the cloud curtain with lightning. After reading this tale, even modern man who thinks he knows the "cause and effect" probably would not want a ringside seat at the birth of a volcano.

By JERRY LAUDERMILK
Drawings by the author
Map by Norton Allen

BEFORE I begin to tell my story, I need a volcano and lots of white-hot rock with a couple of humans to witness the eruption—and react.

Since the only volcano with which I have a personal acquaintance is Pisgah crater over in the Mojave desert, I will rejuvenate its long-burnt-out cinder cone temporarily to furnish the necessary fireworks. For my reporters, I have selected a couple of Indian girls of rather high intelligence, who are capable observers. These girls are not historic characters. If any people really saw Pisgah erupt they left no traditions. However, from the evidence and from what we know about active volcanoes as they are today, there is reason to suppose that events were very much as I shall describe them for the Barstow neighborhood—not so long ago.

In the shelter of the cottonwoods that stretch along the Mojave river near Yermo, a group of Indians were getting ready to set out on a lengthy expedition. Belongings were being hidden beneath fallen logs or buried in the sand. Something important was afoot. It was late spring and the whole band soon would be off to hunt the desert tortoise, always plentiful at this time of the year. Cooked in their shells, these clumsy things were considered good eating and worth a long trip by all the members of the tribe.

I call it a tribe, although actually the desert was too poor to support anything so pretentious. It was a wandering family group of Chemehuevi Indians, including the Old Man and his two women with a scattering of off-spring—mean boys and cat-like girls with sharp, bright eyes. They were going to travel light and such garments as they wore were made from the inner bark of the cottonwood. Clothing wasn't their big problem. Their chief worry was food.

This morning the Old Man was taking his outfit across the flat east towards the Cady mountains. Along the wash near Newberry where the clumps of mesquite grow, the group divided into pairs of foragers who scattered over the desert in a generally eastward direction. The Old Man watched them disappear in the shimmer of a mirage, that is, all but two, a pair of half-grown girls called "Snake" and "Loses-things." These two were veering off to the right in defiance of the Old Man's orders.

As specimens of the human race they didn't rate high. They were undersized and skinny. Their hair, which hung in stringy locks, was tied back with a strip of yucca around their foreheads. Aside from their eyes, which were keen like the eyes of hawks, they weren't much to look at. Both wore sandals cleverly twisted from yucca fiber and each had a long stick and carrying basket to hold whatever edible trash they might be able to pick up.

Their pace was a dog-trot. They didn't talk much as they put distance between themselves and the mesquite clump. The

fact is, they were doing something persons of their ages have done since the Year One—they were running away. In this they were safe enough, the desert was full of water holes since it was a wetter time than now and there was plenty to eat in the way of chuckawallas, lizards, snakes and chipmunks. As for fire, both girls had their fire-sticks and could twirl a spark with the palm-drill when they had to. According to the demands of their surroundings they were a couple of well-adjusted savage kids who had the situation well in hand—so far.

It was about noon and while not particular about their lunch hour, they were on the point of taking a little nourishment in the form of a half-raw rattlesnake that steamed and sputtered in the hot coals of their campfire. While they waited for the snake to cook almost their entire conversation was about eating. Loses-things was talking, marveling at the fact that when cooked, rattlesnake was one of the best things people ate but live snakes were the worst things you had to deal with. If you were bitten you had horrible pains where you had been struck. You were sick inside and out and if you tried to stand you shook . . .

Loses-things had just reached the word "shook" when both girls gave a demonstration of shaking—they couldn't help it. They stood up but hardly could keep their feet. The ground heaved. Then almost as suddenly as it had begun the movement stopped. Somewhere off in the distance there was a sound like thunder. From the near slope of the wash a trickle of dirt and pebbles rattled down in a small avalanche. A light breeze shook a dead weed and from the campfire the rattlesnake burst open with a pop. The sun shone and everything looked the same as usual.

The girls had that "all gone" feeling familiar to everyone in his first earthquake. Snake felt that Loses-things was in some way responsible but they both were too scared to quarrel and both had the same idea—to get back to the tribe as soon as possible. They were too scared to eat and had had enough adventure for one time.

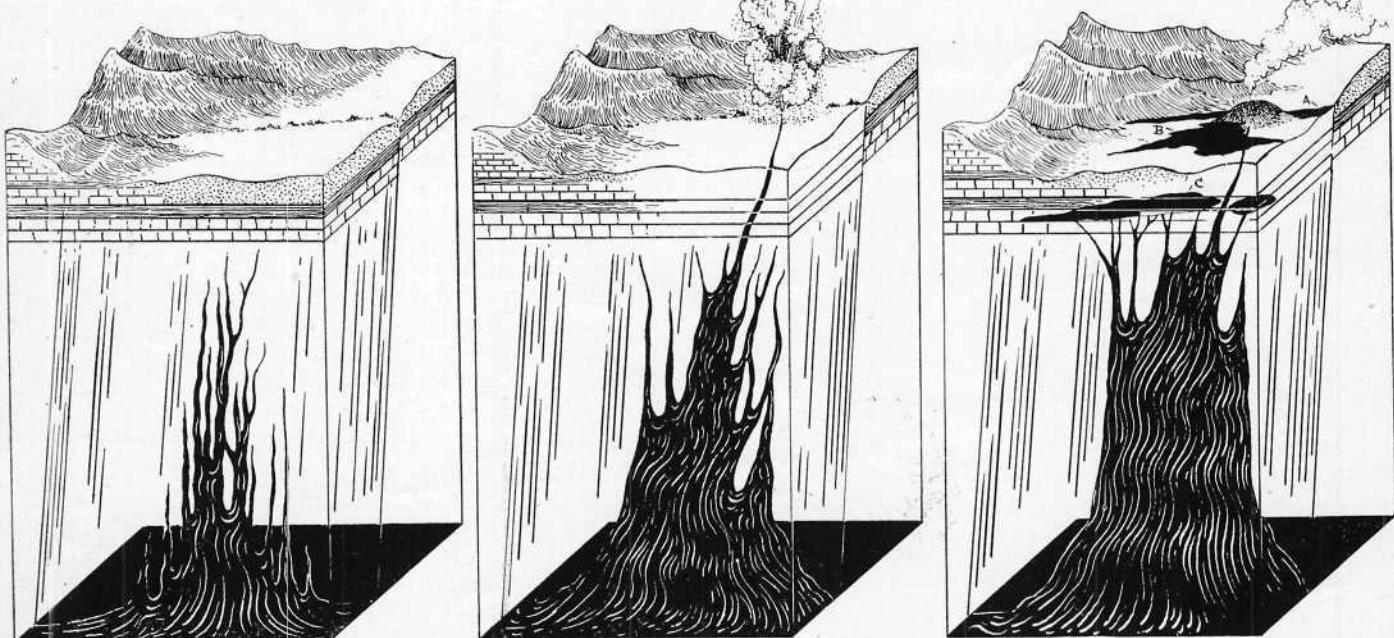
It hadn't seemed far when they started out. Now it was an unending distance. They panted down the canyon and into the open desert where they had an unobstructed view off to the



Pisgah Crater from the north. Cone is a circular pile of ash and lapilli about 160 feet high and ring-shaped like a gigantic ant heap. It is low-toned grey-brown in color.

southeast. It looked the same as always—the same blaze of sunlight, the same clumps of creosote bush, the same distant mountains. For a while they jogged along trampling on their shadows and then without preliminaries, terror took over the entire desert.

It was as if some vast bubble filled with unmitigated noise had burst directly over their heads. There was no rounded rumble to this racket. It was a jagged, splintery hullabaloo that surpassed all comparison. They were physically stunned by the compression wave in the air. For an instant this wave had been visible as a brilliant arc of reflected sunlight rushing towards



4—Tongues of molten rock begin to stope their way to surface. Magma contains water as superheated steam under great pressure. As columns rise they are preceded by crown of incandescent gas which melts everything it meets. 5—With a violent steam explosion eruption takes place. Dust and lapilli are shot upward. Fragmental material and lava soon build up cinder cone as they fall around vent.

6—After initial outburst, explosive phase rapidly subsides. It may have lasted less than a month. Lava begins to fill crater. At length pressure causes breaks through sides of cone near base, lava pours out, forming flows A and B. Lava through other canals fails to reach surface and intrudes between strata to form laccoliths at C. Volcanoes like Pisgah put on a single show, never repeating the performance.

them. The wave pulled them back and forth like a couple of tadpoles in an olla of water. Then the wave knocked them off their feet. They sat in the sand and gravel and looked east towards what seemed a roundup of all their tribal nightmares.

About three miles away the desert was going to pieces. From the flat floor of the valley there loomed a frightful *thing*—a vast, ghastly, solid but boiling shape like something seen in a bad dream—a cloud like a monstrous cauliflower. This seemed rooted in the ground. It was black except where its summit and the swelling billows of its mass caught the sunlight. Here it was silvery white. As they watched, it rose up and up until it touched the sky, then it spread out like a canopy, and dust and cinders began to fall.

Other explosions shook the valley. The cloud heaved with each concussion and finally the curtain of dust became so thick that the cloud itself was hidden by a screen like a wall. This was ripped at times by writhing stems of lightning that twined about like veins of glittering fire. This was electricity generated by the friction of particles of ash against one another. Muddy rain began to fall and the drenching with uncomfortably warm water brought the girls back to what little sense they had left—barely enough to run, run, *run* away from this focus of stark terror—the birth of Pisgah crater.

What had happened was this: A long long time before the Chemehuevi ever thought of migrating into the valley of the Mojave—possibly about the time the first brick was laid in Babylon—deep down in the earth, perhaps 40 or 50 miles below the surface, a vast crack began to form and fret its way through the rocks of the crust. This crack or *fault* extended until it finally made a weak place in the valley floor. At a depth of one mile the pressure amounts to 450 tons per square foot. It increases rapidly after this and at 40 miles becomes fantastic.

With the increase in pressure there also is an increase in temperature. Towards the bottom of the 40-50 mile zone the rocks are hot enough to boil—only they can't. The pressure is too great. These rocks which should flow like melted wax actually are extremely rigid. We know this from evidence of the *seismograph* which shows that earth shocks travel as fast in the deep layers of the crust as they do near the surface.

Inside Pisgah Crater. Clumps of silvery white grass against background of basalt and lapilli emphasize melancholy effect of "cinders from furnaces of hades."



DEFINITION OF TECHNICAL TERMS

BASALT—Hard, usually dark colored, fine grained rock, always product of volcanic activity. Type of solidified lava.

CINDER CONE—Ring-shaped heap of fragmental material of all sizes built up around vent of volcano by volcanic action.

FAULT—More or less vertical crack or joint formed by movement of earth's crust.

LAPILLI—Italian word for "little rocks." Small pieces of solidified lava varying from size of nut to size of pea.

LAVA—Melted rock which has been brought to earth's surface by volcanic action. Same fluid rock subsequently solidified.

MAGMA—Rock, fluid from heat and pressure, as it occurs within the earth. Differs from lava in having both steam and gases dissolved in the hot material under pressure.

MATRIX—Ground-mass of a rock when surrounding some particular embedded substance which may be either a mineral, a fragment of a different type of rock or a fossil.

SEISMOGRAPH—Instrument for recording period, extent and direction of each vibration of an earthquake.

STOPING—Action of a rising column of magma in breaking its way through surrounding solid crust. Takes name from its similarity to ceiling stoping in mining operations. Large blocks break from roof and fall back into the magma.

STRATUM (pl. Strata)—More or less continuous sheet or layer of rock of any predominant type, as sandstone, limestone, shale, etc.

WIDMANSTATTEN FIGURES—Crystalline markings of a particular type developed on meteoric iron when this is etched with dilute nitric acid. Crystalline areas are of two types which differ in their reaction to the acid—some stand in relief, others are eaten in more deeply so that in some cases the block can be inked and an impression drawn off as from an engraved plate.

So the fault I mentioned not only cut through the valley floor at the surface but penetrated into the zone of fantasy at the bottom where we find melted rock with a reaction to stress similar to conditions in a lump of pitch. This may be plastic enough to stick to your fingers but under a quick rap with a hammer fly to pieces with the brittleness of glass. When the lower edge of the fault reached the hot zone things began to happen that wouldn't be evident at the surface for thousands of years. At some point, possibly at several points along the vertical line of the fault, melted rock, the molten *magma*, began to rise.

The magma is a red-hot hurlyburly of geochemical contradictions that defy all common sense. It is not only hot enough to be fluid but is rigid as steel from pressure. It also holds water and other gases actually dissolved—water mixed with molten rock. Nobody knows much if anything about the condition of the elements and compounds in the magma. Possibly molecules of the oxides of silicon, aluminum, iron, calcium, magnesium, sodium, potassium and other elements shove shoulder to shoulder with molecules of water and carbon dioxide like a jammed crowd at a ball game, but here held down by the extreme pressure. At the first opportunity the molecules will seek relief by expansion. The water escapes first as superheated steam.

At first the magma rose slowly but each mile gained meant a lessening of the fearful pressure and vaster amounts of energy made available to battle against the crust. The magma stopped its way upward and its advance guard was a crown of incandescent gas melting, pushing and shoving at the walls of the tunnel as it bored its way to the surface of the earth.

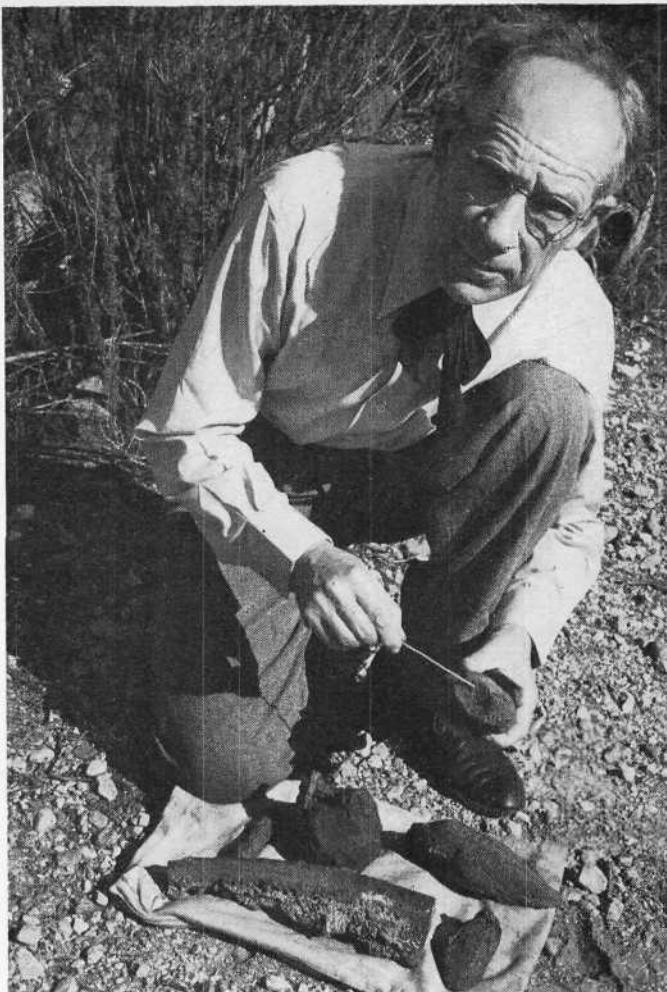
This fiery column cut through stratum after stratum as it neared the outer air and finally, on its last lap, just about the time the girls felt the earthquake, it mingled in a devil's dream with the ground water. Then with a catastrophic outrush of gas, steam, pulverized rock, lava-spray and dust, the frightful plume of pandemonium formed in the valley.

Falling *lapilli* soon built up the cinder cone. Larger gobs of lava hurled high into the air solidified before landing and formed volcanic bombs both big and little. With the final release of the pent-up gas, the explosive phase soon ended. Then the white-hot lava began to boil up in the neck of the volcano and fill the bowl of the crater. This was liquid *basalt*. By day it was black but at night it glowed a lurid and hideous red except when bursting bubbles of steam split the cooler crust and showed the yellow and orange of the lower depths.

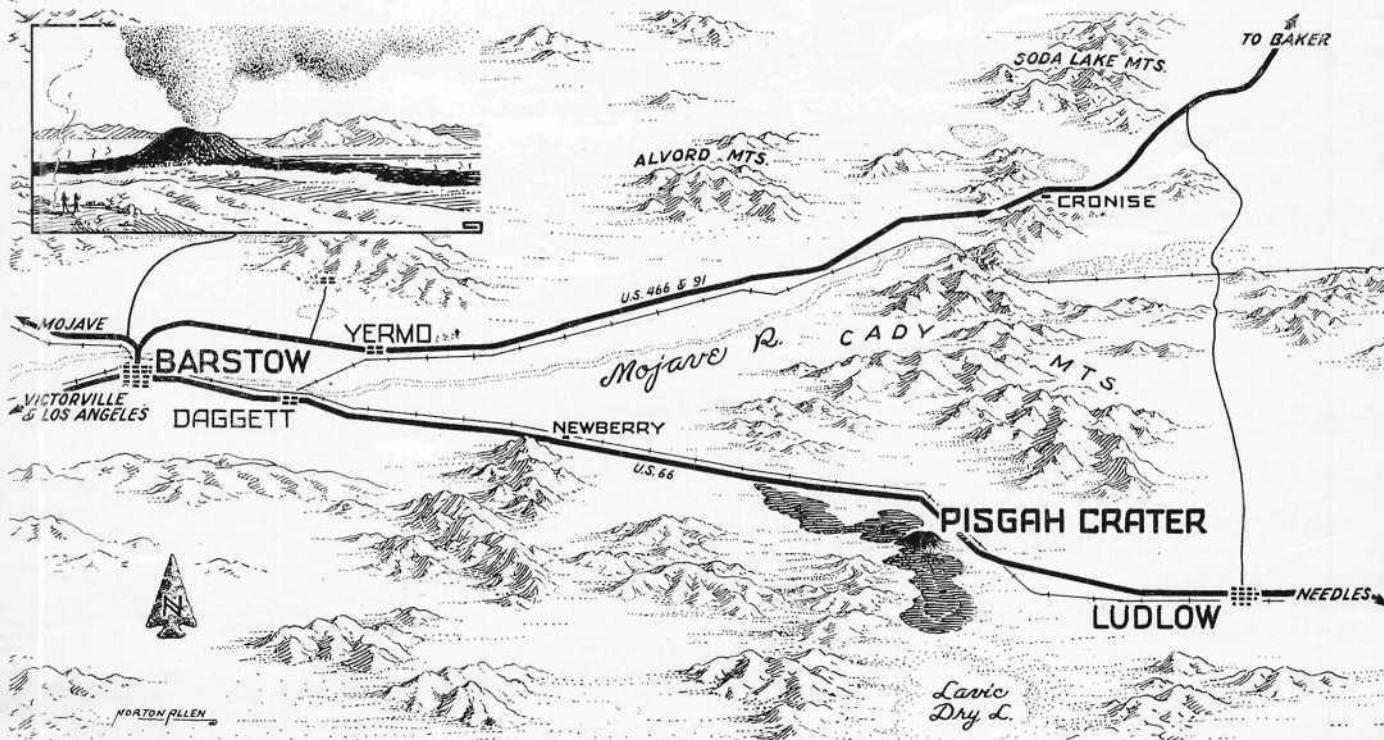
There were no flames or fire connected with the eruption except the blue flames of a little burning sulphur and hydrogen. There were, however, vast volumes of steam being poured out which hung in a cloud over the top of the cinder cone. At night the steam was illuminated by the glow of the melted rock and Indians around Newberry looked east and thought the mountain itself was on fire.

The weight of the steadily mounting column of lava finally became too great for the strength of the sides of the cinder cone. Channels opened up near the base and bled torrents of red-hot lava which slobbered and gulped as they poured out to form the flow of vesicular black basalt that surrounds Pisgah and spreads in a sheet northwest for six miles towards Highway 66.

This basalt, although one of the commonest of rocks, takes on a certain aura of terror when you realize what it actually is—raw world-material from the inside. Its composition varies within narrow limits and even the composition of basalt from the same volcano may change at times but the typical rock is always hard, dense, fine grained, dark grey or even black, stone-



Author with bombs from Pisgah Crater. Long bomb is rare type, originally about three feet long, called a ribbon bomb. It was formed by hot lava streaming through air instead of rotating as is usually the case.



like in texture but almost never glassy. Vast areas of the earth are covered with basalt and in several cases it presents a question that has not yet received a satisfactory answer.

This most astonishing problem is the fact that native iron sometimes occurs embedded as small grains or large pieces in the stony *matrix*. In Ireland, in New Hampshire, New Jersey, Spain and other places, the iron can be identified only when polished surfaces of the rock are treated with a solution of copper sulphate. This leaves a deposit of metallic copper coating the grains which are then readily seen with a lens. In Greenland, where native iron occurs in its greatest abundance, no such delicate treatment is required. At a place called Ovifak on Disco island, the explorer Nordenskiold found great blocks of native iron which had weathered like boulders from the basalt matrix. Some of these had an estimated weight of 20 tons.

Geologists are divided into two camps regarding the occurrence of this metal. Some hold that the iron resulted from reduction of beds of ore by the hot magma. But there are important objections to this assumption. The Greenland iron shows the crystalline structure called *Widmanstatten figures* when a polished surface is etched with dilute nitric acid. The iron also contains up to 6½ per cent of metallic nickel. Both these qualities are supposed to be earmarks of meteoric iron. Apparently this indicates one of two things. Either meteorite iron became in some unknown way embedded in the molten basalt or else these are samples of the actual nickel-iron core of the world. This is but one of the many puzzles associated with basalt. Another, and a common enigma to many persons, including some geologists, is the cause of the prismatic columns seen in some basalt flows.

The prismatic units of columnar basalt may be from an inch or less in cross section and a foot long to giants 20 feet from side

to side and as much as 500 feet in length. This structure sometimes is so impressive that formations where it is exceptionally well developed are of world-wide renown. Such are the Giant's Causeway in Ireland, Fingal's Cave in Scotland and the Devil's Post-pile at the head of the San Joaquin river, California. The prisms usually have a hexagonal section, but 3, 4, 5 and even 7 and 8 sided columns occur.

Cause of this columnar jointing which would be responsible in all cases has not yet been tracked down to a single factor. Possibly there is no single solution. It is certain that shrinkage cracks whose centers of origin are controlled by points of shrinkage disposed in a regular hexagonal pattern over the surface of the rockmass, have produced the columns in some cases. Another possible determinant is the presence of convection currents rising from the hotter bottom layer to the surface of a cooling but still fluid mass of basalt. This last theory might be all right for such cases as the Giant's Causeway where the columns are arranged vertically but does not explain formations in which they are arranged horizontally as at O'Rourke's Quarry, Orange Mountain, New Jersey.

The subject of prismatic jointing is difficult when approached from any angle. But readers of Desert Magazine who want to go into the subject can find plenty of headaches in the discussion of the subject by Joseph P. Iddings in his work "Igneous Rocks," pages 320 to 327, and Robert B. Sosman surveys the whole problem in the "Journal of Geology," April and May, 1916, pages 215 to 234 under the heading "Prismatic Structure in Igneous Rocks."

All I have just said is barely a hint at the interesting features of basalt. To go into detail would require a book and since many such good books already have been written I will end my yarn by saying that Snake and Loses-things finally found their folks and their running-away days were over.

Achievement . . .

- On October 15, 1943, purchase of the electrical properties of the California Electric Power Company in Imperial Valley and the area in Coachella Valley destined to be served by the All-American Canal was completed, and Imperial Valley Irrigation District became the sole distributing agency for electrical energy in these areas.
- Thus was achieved a goal toward which the people of Imperial and Coachella Valleys have united their efforts for a quarter of a century. Full development of the power resources on the great All-American Canal now seems assured and both water and power will be put to the common usage of developing these two fertile reclaimed desert valleys.

SHARING THE BENEFITS OF WATER AND THE PROFITS OF POWER, IMPERIAL AND COACHELLA VALLEYS ARE IN TRUTH GOOD NEIGHBORS LINKED BY BONDS OF MUTUAL INTERESTS AND NECESSITIES.

Imperial Irrigation District



Use Your Own Power-Make it Pay for the All American Canal

LETTERS . . .

Deflating the Roadrunner . . .

Visalia, California

Dear Friends:

In the January issue of your excellent magazine I read the article pertaining to the roadrunner and the build-up the author gave this notorious bird.

For years I lived in the desert of Old Mexico, New Mexico, Colorado, Arizona and California, and during that time I became well acquainted with the daily habits of the roadrunner. I mined in a canyon in Arizona where the rattlesnakes were thick and never once did I see a roadrunner attack or even molest those snakes.

But here is what I have seen. I have watched a few quail drive roadrunners from their location for those vicious murderous roadrunners destroy nests of eggs as well as countless young birds of every variety. They will destroy in one season more quail than 50 rattlesnakes or that many hunters.

Whenever I read any praise of them I know the writer's association with this creature is very limited. The roadrunner is swift, quick and relentless. To me the desert is the grandest of all places to live, and why such a glorious place should be infested with such a vicious creature is a mystery. The only happiness a roadrunner could bring to the quail and myself would be to know they were all dead.

Every issue of your magazine is a greater thrill than the preceding one.

RICHARD OSMOND

To Few Newsstand Copies . . .

Burbank, California

Dear Sirs:

I find it harder each month to find the good old D.M. at newsstands. Sometimes I make three or four trips to news dealers before I can find a copy. I haven't missed a copy for four years. Please send a year's subscription.

JOSEPH S. THOMAS

Edible Desert Plants Wanted . . .

Banning, California

Dear Sir:

I wonder if there is anyone who has seeds or cuttings of edible desert plants or plants that can be crossed with edible plants or used as stock on which to graft same? Am especially interested in *Amelanchier alnifolia* var. *covillei* of the Clark and Panamint mountains; also the various species of *Physalis* listed as native to the Mojave desert. Is there any variety of tepary bean more drought-resistant than the ordinary varieties?

THEODORE B. DUFUR

Dear TBD: Any replies from our readers will be forwarded to you.—L. H.

Sidewinder "Sun Test" . . .

Monrovia, California

Dear Miss Harris:

In September, 1941, while working at Daggett, I captured a full-grown sidewinder and tested the effect of sunshine on it by keeping it in direct sun near noon on a moderately hot day. The reptile fought viciously to reach shelter, requiring the efforts of two men to keep it out in the open. The ground was hard-packed sand, not paved.

Near the six-minute point the sidewinder began to slow down rapidly. In ten minutes it was completely helpless, limp, and appeared almost dead. I placed it in shade where it began a slow recovery. For two or three days its mid-section remained paralyzed. Thereafter it appeared normal. Two weeks later I liberated it.

This is contrary to the opinion of Mr. Edward P. Kincaid, in December issue. However, the protection afforded by depressions in the sand, and the slant of the sun's rays at 8:00 A. M., constitute a set of conditions very different from the above. So I would venture the opinion that partial shade such as a clump of grass, a bush, a rock or depression is sufficient to keep them quite happy, but that direct sunshine on a hot day is fatal within the theoretical 20-minute limit.

ROBERT P. ALLEN

• • •

Desert is "Sustaining" . . .

Hollywood, California

Dear Desert Magazine:

Here is an order for five books, three of which will be my own, to bolster me in my strenuous days of newspaper reporting and my strenuous nights of serving as volunteer, 1 to 7 a.m., with Army Aircraft Warning corps. Until I can get back into the desert—I can dream, just like a lot of other folks are doing.

One book is for wonderful Artie Mason Carter, who introduced me to Desert Magazine. Another is for Gisella Loeffler, whose adorable paintings adorn the Socorro School of Mines, Bullock's Westwood, and several books.

Thanks for the "sustaining" which your magazine gives to my thoughts and spirit 12 times every year!

MARION BOWEN

• • •

For Morale of Bomber-Builders . . .

Hawthorne, California

Madam:

Please send me the back numbers I am listing. Desert Magazine is one of the greatest aids to my staying on the job building dive bombers, when I think about going rock hunting.

CALVIN P. STILWELL

Rattlesnakes, Rocks and Desert . . .

Newton, Kansas

Dear Sir:

I just received my copy of Desert, and in leafing through the pages an item from Flagstaff, Arizona, on page 2 caught my eye. It was headed "Smith Snakehunters, Inc." and tells about hunters Henry and Robert Smith and their record of 70 snakes in five years. It mentions that the only drawback is lack of company. They'd better go to Oklahoma where they really hunt rattlesnakes with a vengeance, and bag 70 to 100 in one Round Up. That's what they call it—Rattlesnake Round Up and Barbecue.

They have this Round Up every year in March, when the snakes are just ripe for pickin'. Experienced hunters go out, and their motto is bring 'em in alive. They use a forked stick to hold their heads then take another stick with a strap-like noose at the end which is slipped over the head and pulled tight, then into a gunnysack they go.

When the hunt is over and all the hunters bring in their sacks well filled, they proceed to have the barbecue. John Krause of Okeene, Oklahoma, claims he can cook a snake steak that will just "naturally melt in yer mouth." This Rattlesnake Round Up is sponsored by the junior chamber of commerce of Okeene.

The Gyp hills near Okeene, where the hunt takes place, is just about as desert-like as many places I have seen in the West. My husband was born and reared there and he says there were always plenty of snakes. The hills are low and covered with sage, skunk bush, yucca and prickly pear cactus. The soil is red and gyppy. Just recently an interesting mineral discovery was made in that part of the country. A farmer near Homestead, Oklahoma, noticed a ledge of rock on his place which he was told was a fine grade of alabaster. Being an old rockhound myself, I wrote for a specimen and it is beautiful. I have alabaster from Colorado, South Dakota and Wyoming but this has them all beat for color. It has little red and brown veins all through the white. This man told me he had contracted to sell the entire output to a corporation in Chicago, said corporation composed of four of the largest lamp manufacturers in the United States.

I think Western Kansas and the Oklahoma Panhandle should be included in the territory covered by your magazine. I read some time ago that some few wanted to keep the publication exclusive, just reserved for the desert. My, my—I've seen more vegetation on the deserts of California and Arizona than parts of Kansas, Oklahoma, and the Staked Plains and canyons of Texas. What you want to be stingy for?

MRS. MARIE KENNEDY

Another Fuzzy Thinker Speaks . . .

San Jose, California

Editor Desert Magazine:

I hope you will continue giving us the same sort of magazine you have for the few years I have been a subscriber. It is because of the beautiful F A C T S in its pages that I intend not to let my subscription expire.

Since reading the Letters in January issue I again read Mr. Boyer's letter in the November number, and I express my astonishment and wonder how Mr. Boyer was able to come to the conclusion that "most of us enjoyed" such and such reading, "despite the few that complained." How was he able to get a poll of the ideas of so many readers?

A "fuzzy" thinker like myself of course would not be expected to figure that out. Another "fuzzy" thought comes that is too deep for me—how is it that D. M. has built up such a circulation, continuing its present policy, to suit us "fuzzy thinkers" so well? As he alludes to "the average moderately educated person" as being the kind that does not appreciate esoteric matter descriptive of the beautiful facts of life it must be that we "fuzzy thinkers" are simply folks who have not had the chance to loll around some dude ranch and absorb an education as some of the patrons of those places do.

Of course an artist, in rendering a composition from the original may hit a discordant note once in a while. That is to be expected. But I still love to hear renditions of Paderewski's compositions, for though they be poorly offered, the melody is still intact. And although I never met Mr. Paderewski I have met the desert and I appreciate the reproductions of the original in the pages of Desert Magazine.

I believe it is because the sordid facts of the desert are and always have been only a minor part of the whole that the Desert Magazine has attempted to reproduce the beautiful, the glorious and profound impressions we "fuzzy thinkers" enjoy about the desert.

I cannot resist referring to the remarks made by Helen Knupp in the January issue about the grade of poetry and what she says about how people feel and the annoyance it causes those who do feel. I wonder if she knows how those who submit poetry to the D. M. feel about such remarks? I am sure she does not!

It seems to me the editor should be complimented for publishing poetry sent in by these aspiring poets, for they are inspired with thoughts of beauty and that is more than I can say of Helen Knupp and others like her.

Unless one is a "fuzzy thinker" we cannot expect him to note the beautiful facts expressed by Marshal South and the wonderfully beautiful lines that Tanya adds to them, for such profound beauty could

never enter the brain of the "average moderately educated person." Please note the last two lines of Tanya's verse in the January issue, Mr. Boyer and Helen Knupp—"To fill their lives with Light and Love—These are worth while!" Such thoughts as that are worth many times the cost of a whole year's subscription to our magazine.

Yes, dear editor, I am one of those "fuzzy thinkers," and I pray that you continue to give us the esoteric beauty of the desert, for "These are worth while."

WM. C. CHANDLER

* * * Likes Death Valley Stories . . .

Buttonwillow, California

Dear Sir:

Enclosed is renewal of subscription to Desert Magazine for another year. I would not want to be without this valuable magazine. Your articles and maps, especially about the Death Valley region, are of deepest interest to us.

I spent one year in Death Valley country as agent telegrapher for the historic old Tonopah & Tidewater RR at Shoshone, and visited many of the places of interest in that region. I especially appreciated the stories about Senator Charles Brown and family and about his father-in-law Dad Fairbanks. I read in your magazine lately of the death of Dad Fairbanks, the grand old man who knew Death Valley country probably better than anyone else.

C. A. VINSON

* * * Wants Navajo Rug Articles . . .

San Diego, California

Desert:

The only fault with Desert Magazine is it doesn't come often enough. We would very much enjoy a long series of articles on Navajo rugs, their history, designs, dyes, weavers and traders . . . And could someone write an article on San Diego Rawson who has the last trading post curio store west of the Navajo country?

R. M. ZERBER

Dear RMZ—For story of San Diego Rawson, see DM, March, 1941.

* * * DM is "Letter from Home" . . .

Los Angeles, California

Dear Editor:

A friend brought me a copy of your July issue, and I cannot tell you how thrilled I was with every page of it. I am from the desert of Nevada, and it was like a letter from home, to one who had been away a long time.

I intended to send in my subscription then but days slipped by and I did not get around to it. Enclosed you will find my check for \$2.50, and I know I am going to receive many times that amount in the pleasure it brings.

CAROLYN HUMPHREYS

How Cacti Left America . . .

Evansville, Indiana

Dear Miss Harris:

The magazine came this morning and I am more than happy to have it. I really shouldn't have Desert at all. It makes me so disagreeably homesick for the Southwest again.

I am interested in Mr. Henderson's mention of cactus in Africa. He states that he thought cactus was native only to the Americas although it is found in many other places.

My information is the result of painstaking comprehensive study of the native flora of the Holy Land, Palestine, Syria and Mesopotamia. The huge prickly pear cactus is very widespread and thrifty throughout this region, particularly in the region called the Wilderness of Judea, which includes all the semi-arid slope from the top of the Mount of Olives down to the Jordan and the Dead Sea. This region in many ways is similar to Death Valley and Salton sea of our own Southwest.

It is the opinion of the most learned botanists of the Holy Land area that cactus was not found there until after the padres entered California and our Southwest. From the American mission gardens they sent specimens to their brothers in other monasteries. For these men were serious students of flora, especially that which might be used for food, clothing or shelter of man.

From monastery gardens atop Mt. Carmel, Mt. Sinai and perhaps others, these cacti escaped into the desert of Palestine where they at once became much at home. Their stay was not challenged, for the Arabs were not agriculturists. They, like our Southwest Mexicans and Indians, used its succulent joints as a green vegetable and its fruits in various ways. They made splendid self-supporting barriers from thick hedges of it. Camels and asses ate it with relish. It not only was accepted as a welcome addition to wild life, but was planted and carried from place to place, including Australia.

I am glad to add a hearty "amen" to all your editor has said about the efficiency with which you are carrying on in his absence. I am exiled from my beloved Laguna Beach and La Jolla for the duration, but Desert Magazine helps me keep looking forward.

JEAN LEATHERS PHILLIPS

* * * Breath of Open Spaces . . .

Alpine, California

Dear Miss Harris:

I'm enclosing check to renew my subscription. It's a magazine that I watch for eagerly. There's a breath of the open spaces in it that relaxes one. Its "homey" touches bring the soul of the desert to me—something a too-scientific magazine of hard-boiled facts could not do.

CORA DYER

HERE AND THERE...on the Desert

ARIZONA

Southwest Has Best Teeth . . .

CASA GRANDE—Survey among thousands of army aviation cadets stationed at San Antonio, Texas, reveals Southwest men have best teeth in army. Decaying, missing and filled teeth averaged nine each (lowest for nation) among cadets from Texas and Oklahoma. Arizona, New Mexico and Montana men were next lowest with 11 each. Washington, highest, had average of 21 defectives. Reason given by Capt. Wm. W. Senn of army dental corps was fluorine in Southwestern drinking water, high mineral content of vegetables, fruit and milk.

Rodeo Set for April . . .

PHOENIX—World's Championship rodeo, sponsored by junior chamber of commerce for Red Cross benefit, has been set for April 13-16, according to Andy Womack, general chairman.

Head Successor at Poston . . .

POSTON—Duncan Mills, formerly with resettlement administration in Albuquerque, New Mexico, has succeeded W. Wade Head as director of this Japanese war relocation project. Head, who returns to duties with Indian service, reports that since start of project in March, 1942, more than 4,000 acres of desert land have been cleared and 2,000 acres placed under cultivation. Main irrigation canal from Headgate Rock diversion dam on Colorado river has been extended 14 miles. Twenty miles of laterals, 16 miles distribution ditches and 16 miles drainage canals have been built. Of the road project, to be completed July 1, 12 miles hardsurfaced highways have been built, four miles prepared for oil mat surfacing and eight miles graded for oiling.

New Navajo Post Filled . . .

WINDOW ROCK—John M. Cooper, director Navajo livestock and ranges, has been given added responsibility of directing all matters affecting land resources and management of the 52,000 Navajo Indians in New Mexico, Arizona, Colorado and Utah. Supt. James M. Stewart of Navajo central agency said new post was part of broad program of administering Indian areas on long-range basis.

Wild Pig May be Hunted . . .

FLAGSTAFF—Season for hunting javelina, Arizona's wild pig, is February 20 to March 20. Each hunter will be allowed one adult animal which may be taken with rifle only, propelling bullets weighing 87 grains or more. Javelinas range over half the state. They are found on desert foothills, are vegetable eaters.

Retired Cudahy Manager Dies . . .

PHOENIX—John D. Fife, Arizona and Utah pioneer, died January 22 in Los Angeles, aged 81. Born in Ogden, his father's family was one of the first recruited by Brigham Young to explore Arizona territory. Their party crossed Colorado river at Lee's Ferry in 1880 and settled in Sulphur Springs valley where they fought off Chiricahua Apache raids. For many years he was western division manager for Cudahy packing company. He retired 11 years ago, spending his winters in Mesa and summers on his Utah ranch.

Topo Maps to be Released . . .

TUCSON—U. S. geologic survey's standard quadrangular maps of continental United States, which have been restricted from general public distribution since outbreak of war, now are being released, announces state bureau of mines at university of Arizona.

J. C. Tovrea, 70-year-old brother of late E. A. Tovrea, founder of Tovrea packing company, died January 18 at his Nogales home. He settled in Arizona 52 years ago.

Dehydration Plans Expanding . . .

SAFFORD—Expanding plans for dehydration plant here were discussed with Graham county chamber of commerce by J. M. Julian of Safford onion dehydration plant. Julian said his firm would experiment with other available vegetable crops in demand, such as parsley, asparagus, tomatoes, chiles, pimientos, sage, garlic, most of which could be grown in Gila valley.

29 PALMS INN

THE HOTEL AT THE
PALMS

* * * * *

FIREFPLACE ADOBES

* * * * *

FOOD TO REMEMBER

* * * * *

SADDLE HORSES

BADMINTON

* * * * *

AMERICAN PLAN

Single \$6.00 up

Double \$10.25 up

Gateway to Joshua Tree National Monument
ROBERT VAN LAHR, Manager
Reservations — write 29 Palms Inn at
Twenty-nine Palms, Calif., or call any Travel
Bureau or Automobile Club.



**Plan now for postwar travel fun—
Buy War Bonds
till this war is WON!**

Staying off the trains and buying War Bonds are two important ways civilians can help the war effort. Right now our trains are packed to capacity. The men in uniform and other essential war travelers have first call on all Southern Pacific facilities. So you'll be wise to postpone unnecessary train trips now and put

your money into War Bonds. After the war you'll be glad you did. War Bonds mean "cash on hand" to finance postwar vacations!

S.P

The friendly Southern Pacific

Wild Turkeys on Increase . . .

FLAGSTAFF—Arizona's wild turkeys are showing enough increase that William Brown, deputy game warden, believes before many years there will be a crop for turkey hunters to harvest. Birds had been almost exterminated when in 1931 Cocco-nino turkey refuge was established and control exerted over such predators as coyotes, foxes, feral house cats, eagles, mountain lions and poachers.

CALIFORNIA

Veterans Taking Five Acres . . .

BARSTOW — Countless servicemen back from war fronts with shattered minds and bodies, already are taking advantage of government's offer of a five-acre tract of land in the desert. Paul Witmer, registrar U. S. district land office, Los Angeles, reports that one youth returned from Guadalcanal asked for a place "as far away from everything as I can get." Witmer located him on a tract of barren desert near Palm Springs. Land in sections near Twentynine Palms, Morongo Valley, Palm Springs, Victorville and many others now is to open to civilians as well as veterans.

Italians Escape—Almost . . .

BLYTHE—Comic opera aspects featured brief flight to freedom of six Italian prisoners of war from Blythe prison camp in January. Escaping camp in early morning, they stole car at roadside, drove towards Mexican border until it ran out of gas 120 miles away. They made zigzag course through rugged desert until they believed they had reached Mexico. Deputy Sheriff Peter Klyne of El Centro, expert desert tracker, and posse found abandoned car, tracked men and found them fast asleep in sanddunes half a mile north of border. Said men, "We're tired of the war, and tired of being prisoners." They had hoped to reach Mexico, get civilian jobs and find peace.

Golden Eagle Tamed . . .

LONE PINE—Residents watching a huge Golden Eagle on roof of a cafe here stared in disbelief when Joe Grivet paraded the bird down Main street. He had caught the eagle in a coyote trap set in Alabama hills, had nursed it back to health. He intends to free the bird, which has an eight-foot wingspread, but it has become partially tame.

Holtville Fire Damaging . . .

HOLTVILLE—A half block of business section of this Imperial Valley town was destroyed January 24 by wind-driven blaze which caused estimated half million dollar damage. Telephone communication was cut off when Southern California telephone exchange was destroyed.

Record Crop for Coachella . . .

INDIO—Value of Coachella Valley crops for 1943 more than doubled that for 1942, totaling \$11,627,109.30 against \$5,369,920.75 previous year, which in turn had been almost double 1941 total. Main factor was largest date crop on record, with estimated value of \$4,475,928.80, plus \$346,880 for culls. Thompson grape, tomato and grapefruit crops passed million dollar mark. Sweet corn and green beans brought more than half million. Cultivated acreage decreased from 18,493 in 1942 to 15,042 acres.

Burned San Jacinto Sown . . .

PALM SPRINGS — Approximately 7000 acres of San Jacinto mountain area burned in Tahquitz fire early in the winter had been sown with mustard seed by end of January. DeWitt Nelson, supervisor San Bernardino national forest, said mustard was best plant known for quick establishment of cover crop for denuded area. In addition 8000 pine seedlings have been planted in upper reaches of burned area.

The Desert Trading Post

Classified advertising in this section costs five cents a word, \$1.00 minimum per issue—
Actually about 1½ cents per thousand readers.

MISCELLANEOUS

WOULD YOU CHANGE old ways of living and working for NEW IDEAS of the Principles of Nature? If so, address BASIC-RESEARCH LABORATORIES SYSTEM, 785 Lafayette Street, Denver 3, Colorado.

FOR SALE—12 beautiful perfect prehistoric Indian arrowheads, \$1; 10 tiny perfect translucent chalcedony bird arrowheads, \$1; 10 perfect arrowheads from 10 different states, \$1; perfect stone tomahawk, \$1; 4 perfect spearheads, \$1; 5 stone net sinkers, \$1; 10 perfect stemmed fish scalers, \$1; 7 stone line sinkers, \$1; 4 perfect agate bird arrows, \$1; 5 perfect flint drills, \$1; 7 perfect flint awls, \$1; 10 beautiful round head stunning arrowheads, \$1; 4 fine perfect saw edged arrowheads, \$1; 4 fine perfect flying bird arrowheads, \$1; 4 fine perfect drill-pointed arrowheads, \$1; 4 fine perfect queer shaped arrowheads, \$1; 4 rare perfect double notched above a barbed stem base arrowheads, \$1; 5 perfect double notched above a stemmed base arrowheads, \$1; 12 small perfect knife blades of flint, \$1; rare shaped ceremonial flint, \$1; 3 flint chisels, \$1; 7 quartz crystals from graves, \$1; 10 arrowheads of ten different materials including petrified wood, \$1. All of the above 23 offers for \$20. Locations given on all. 100 good grade assorted arrowheads, \$3.00 prepaid. 100 all perfect translucent chalcedony arrowheads in pinkish, red, creamy white, etc., at \$10.00. 100 very fine mixed arrowheads all perfect showy colors and including many rare shapes and types such as drill pointed, double notched, saw edged, queer shapes, etc., location and name of types given, \$25.00 prepaid. List of thousands of other items free. Caddo Trading Post, Glenwood, Arkansas.

FOR SALE OR TRADE—English R. and J. Beck Microscope—two objective—in good condition, Retina 35 m/m camera Number One-Ektar 3/5, 3 1/4x4 1/4, Graphflex camera, Zeiss Icon Super-Ikonta "D" in perfect condition, Officers' Model 22 cal. Dr. Roy S. Horton, 113 1/2 North Main St., Santa Ana, Calif.

Phonograph records bought and sold. Write particulars to Phonograph Record Research, P. O. Box 160, Wall Street Station, New York 5, N. Y.

25 Genuine Indian arrowheads, \$1.00; Tomahawk head, .50. Cat. of Indian relics, crystals and ore specimens. Geo. Holder, Glenwood, Ark.

LIVESTOCK

KARAKULS producers of Persian Lamb fur are easy to raise and adapted to the desert which is their native home. For further information write Addis Kelley, 4637 E. 52 Place, Maywood, California.

"Karakul Fur Sheep—America's Great Livestock Opportunity—You can be a part of this fascinating business and have your Karakuls cared for in California, by experienced ranchers. Write for details, James Yoakam, National Distributor, 1128 No. Hill Ave., Pasadena, California."

REAL ESTATE

For Imperial Valley Farms —

W. E. HANCOCK
"The Farm Land Man"
Since 1914

EL CENTRO — CALIFORNIA

TRUE OR FALSE ANSWERS

Quiz on page 16

- 1—False. Lowest elevation is Badwater, Death Valley.
- 2—True. Name of yucca also is given to ceremonial dance in Navajo Mountain Chant in which a yucca apparently is made to grow from seed to mature plant in a few minutes.
- 3—True.
- 4—False. Author is P. A. Bailey.
- 5—True.
- 6—True.
- 7—False. Sand may be composed of any kind of rock.
- 8—False. Located in Utah.
- 9—True.
- 10—False. Reacts little or not at all in the cold acid.
- 11—True.
- 12—True.
- 13—False. A typical sand-flat and dune species.
- 14—False. Primary purpose was not scientific but adventurous.
- 15—True. It is over 15 miles long.
- 16—True. Helium bearing gas is being developed by bureau of mines on Navajo reservation near Shiprock.
- 17—False. First to come were "Mountain Men" who were mainly trappers. Some came as early as 1820s, long before gold discovery.
- 18—False. They are volcanic.
- 19—False. Setting is Baja California.
- 20—True.

Marine Station Enlarged . . .

EL CENTRO—One of five Southern California marine and naval air stations to be expanded in \$25,554,000 program, El Centro marine air station will have new construction and improvements to amount of \$4,883,000. Local project will include runways, parking space, bachelor officers' quarters, barracks and messing, hangars, storehouses, special new buildings and additions, roads, walks. Other bases included in program are marine corps air stations at El Toro, Mojave and Santa Barbara; marine air depot at Miramar; naval air station at San Diego.

Owens Project Approved . . .

BISHOP—Proposed \$16,000,000 hydro-electric project for Owens river gorge north of here was given additional support by favorable action taken in January by Los Angeles city council which approved its water and power committee report. Council thereby urged immediate drafting of plans for constructing four hydro-electric plants in the gorge and acquisition of rights of way.

Guayule Goes to Mexico . . .

THOUSAND PALMS—Thirty million guayule plants from emergency rubber project here were shipped in January for transplanting to about 50,000 acres at Durango, central Mexico. Continental Mexican rubber company was successful bidder for large nursery stock order which was packed a million plants per car in 400 lettuce crates.

NEVADA

Winnemucca's Grandson Killed . . .

NIXON—Stanley Winnemucca, descendant of Pahute Indian chief who led fight against white man in battle of Pyramid Lake in 1850s, was killed in action while serving with marine corps in Southwest Pacific. The young Indian had joined marines two years ago.

Travel Over Dam Increases . . .

BOULDER CITY—Travelers crossing Boulder Dam in December, 1943, exceeded by 2635 those who crossed in December 1942. Total for last December was 8883. Total for entire Boulder dam recreational area, which includes Boulder beach, Las Vegas beach, Pierce Ferry area, Eldorado canyon, Willow beach, Temple Bar and Overton district, was 10,247.

Dufurrena Ranch Sold . . .

WINNEMUCCA—Alex Dufurrena ranch near Denio, at Nevada-Oregon state line has been sold to California mining men who took possession in January. They are A. E. Hall, A. F. Giddings, L. H. Davey, Wilbur H. Haines and O. Jack Bouger. Dufurrena ranch consists of 8000 acres and extends west, south and east of Denio.

Nevada Teacher Salaries Up . . .

CARSON CITY—Average Nevada school teacher salary has advanced \$169.32 per annum in past year, according to records of state superintendent Mildred Bray. Average annual salary of grammar and high school teachers now is \$1911.94. Highest individual salary in state, \$5400, is paid to superintendent of Reno city schools. Number of teachers employed in state this year is 965 compared with 992 last year.

University President Elected . . .

RENO—John Ohleyer Moseley, dean of students at University of Tennessee, has been named president of University of Nevada effective July 1, 1944. He succeeds the late Dr. Leon W. Hartman. He studied at Austin college, Sherman, Texas; University of Oklahoma; was awarded Rhodes scholarship and the Royall Victor fellowship at Stanford university.

Opal Jack Lubbinga Dies . . .

WINNEMUCA—Death of John "Opal Jack" Lubbinga, who died in January aged 85, closed a colorful career which started in Nevada in 1898. He was stage driver between Winnemucca and Denio, he discovered one of the large opal deposits in northern Humboldt county, he played on the stage with May Robson and Clara Kimball Young. Among survivors are a niece, Mrs. Mary Granwald of Berwyn, Illinois, and a cousin, Henry Doornkett, Detroit, Michigan.

Indians Use Branding Iron . . .

CARSON CITY—Nevada Indians have accepted another device of white men—the branding iron. Traditionally a brave's standing depended on his ability to steal cattle and horses but today he is judged by his fellow tribesmen by the amount of stock bearing his legal brand. About 55 Indians on six Nevada reservations have recorded brands since 1939. They usually are not such fanciful figures as those adopted by white men.

NEW MEXICO

Men Minus Barbers . . .

MOSQUERO—Men in this cowtown are mumbling in their beards. Their only barber moved away. Another moved in but the draft board put him in the army. They imported a woman barber from Texas. Before she could finish job of removing beards state hustled her off for license examination. She didn't get the license.

Newcomb Sells Trading Post . . .

NEWCOMB—Arthur J. Newcomb, for many years a trader on Navajo reservation, sold his trading post in January to J. M. Drolet and Paul Brink. Mr. Brink, who has been at Sheep Springs trading post, will be in charge of the property.

Brownfield Heads Cattlemen . . .

DEMING—A. D. Brownfield, local cattleman, was elected president American national livestock association at Denver January convention, to succeed Frank Boice of Sonoita, Arizona.

A WESTERN THRILL

"Courage," a remarkable oil painting 20x60 feet, the Covered Wagon Train crossing the desert in '68. Over a year in painting. On display (free) at Knott's Berry Place where the Boysenberry was introduced to the world and famous for fried chicken dinners with luscious Boysenberry pie.

You'll want (1) A 4-color picture of this huge painting suitable for framing. (2) A 36-page handsomely illustrated souvenir, pictures and original drawings, of Ghost Town Village and story of this roadside stand which grew to a \$600 annual business. (3) Two years subscription (12 numbers) to our illustrated bi-monthly magazine of the West. True tales of the days of gold, achievements of westerners today and courageous thoughts for days to come. Mention this paper and enclose one dollar for all three and get authentic western facts. Postpaid. GHOST TOWN NEWS, BUENA PARK, CALIF.

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THE *Desert* MAGAZINE

636 State St.

El Centro, California

Famed Lodge Burns . . .

DATIL—Navajo Lodge, celebrated in best seller "No Life For a Lady," written by Agnes Morley Cleaveland, was destroyed by fire in January. It was built in 1886 for Mrs. Cleaveland's parents, and was considered one of the finest hand-hewn log buildings in the country. It had been moved here from its original site in 1920 when it was opened as a hotel.

Press Officers Named . . .

SANTA FE—New Mexico press association at annual convention in January elected A. W. Barnes, Gallup publisher, president of the association. Frank C. Rand, Jr., Santa Fe publisher, was elected vice-president, succeeding Barnes; David Bronson, Las Cruces, and Earl Grau, Tucumcari, were re-elected treasurer and secretary. Board of directors renamed for two-year term were Geo. S. Valliant, Albuquerque, Richard Hindley, Clovis, and Floyd B. Rigdon, Carlsbad. Dale Bullock, Santa Fe, was elected to board to succeed Rand.

New Mexican's Record Intact . . .

LOVINGTON—Calf roping record established at Denver arena several years ago by John McClure still stood at close of 1944 national western stock show rodeo. Clyde Burke of Comanche, Oklahoma, dropped his calf in 16.4 seconds, as against McClure's record of 12 seconds flat, and world record of 11.2 seconds.

The Postman Didn't Ring . . .

HAYDEN—Dave Ellis lives on a star mail route 12 miles from here, but for more than a month snowdrifts prevented mail delivery. He couldn't stand it any longer. He drove 15 miles south to Rosebud, 31 miles west to Mosquero, 65 miles to Springer, 40 miles to Raton, 83 miles to Clayton, then slipped up on his own post-office—12 miles from home. Total mileage was greater than distance to Denver, but he got his mail.

Indians Seek White Medicine . . .

GALLUP—Chee Dodge, Navajo council chairman, has requested Indian service to provide a dozen hospitals similar to one at Crownpoint, to be scattered throughout Navajo reservation. President Roosevelt already has asked congress to appropriate \$73,050 for Eastern Navajo hospital at Crownpoint, \$52,590 for Northern Navajo hospital at Shiprock, \$34,065 for Charles H. Burke hospital at Fort Wingate and \$34,250 for Zuni hospital.

• • •
New Mexico bankers association will hold annual convention in Santa Fe April 28-29.

• • •
State income from rentals and royalties on gas and oil lands set all-time high in 1943, totaling \$4,581,758, more than a million dollar increase over 1942.

UTAH

Hope for Dewey Dam . . .

THOMPSONS—Development of Dewey damsite on Colorado river east of here, or at least another project on the river, is virtually a certainty within "a considerably shorter time than 25 years" according to John C. Page, consulting engineer and former bureau of reclamation commissioner. Page is compiling comprehensive report on Colorado river basin project development, with recommendations for new projects. Such a dam is needed badly, he said, to control silt deposits in Lake Mead, to provide electric power which would make industrial development of state possible.

Governor Wants Virgin Dam . . .

ST. GEORGE—Governor Herbert Maw in January said he would ask construction of a dam on the Virgin river which would irrigate 3100 acres of Arizona strip country and 11,000 acres of Utah's Dixie valley, as an emergency food project. Plans call for earth-fill dam near here.

Plan Permanent River Body . . .

SALT LAKE CITY—Representatives of seven western states affected by Colorado river, headed by Charles A. Carson of Phoenix, Arizona, declared at a meeting here in January they would endeavor to form permanent organization to conduct Colorado river affairs of New Mexico, Colorado, California, Utah, Wyoming, Arizona and Nevada.

Geologist Takes New Post . . .

BINGHAM—L. S. Breckon, mine geologist at Bingham pit of Utah Copper company for past 10 years, has been appointed field engineer for Kennecott Copper corporation, of which Utah Copper is a subsidiary. Retaining headquarters at Bingham, he will conduct exploration work and examinations of mine prospects in western states. A native of Salt Lake City and graduate of University of Utah, he went to South America in 1920 where he worked for Cerro de Pasco copper company, after which he engaged in mining activities in this country and in British Columbia.

Dehydration Fund Approved . . .

ROOSEVELT—Final approval of \$50,000 federal advance to equip potato dehydration plant here has been given by department of agriculture, according to Senator Murdock. Local farmers had contributed \$30,000 for building and for digging potato pits.

• • •
Roy A. Schonian, publisher of Uintah Basin Record, Duchesne, was elected president of Utah state press association in Salt Lake convention in January.

Sez Hard Rock Shorty of Death Valley

By LON GARRISON



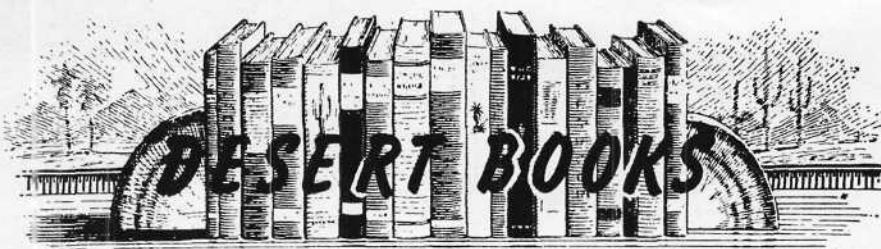
"Look!" pointed out Hard Rock Shorty. "Right up there near the top o' Telescope peak — you'll need these glasses to see it but there it is—see that little bald spot about as big as two acres? Looks kind o' funny there in the middle o' all that brush but the way it got there is funnier yet. It was made with skis, an' I made it."

Hard Rock took another look at the site of his ski adventures.

"Maybe yuh read a year or two ago about a couple o' fellers who come up over Telescope peak from the other side an' skied down this way as far as they could an' then hiked on down to where they had a car waitin' for 'em. Well, that's gospel all right but what they don't tell is that it took 'em close to all day an' then all night too to get down an' their skis are still up there someplace in a tree to scare the pants off some mirage-crazy prospector.

"Well, those guys hadn't nothin' to do with this clear spot up there—I'm just tellin' about 'em so that you'll know there's snow up there to ski on sometimes. In fact, years ago I done it myself. I had a little prospect right in the place that clearin' is now, with a cabin. In the winter time the easiest way in was for me to go up over the top an' down on this side. I'd use skis for the slide down this way on account of it was just 'Swish!' an' I was there."

"One trip I was takin' in a bunch of steel for drills an' had along a cook stove an' some other odds an' ends an' it made a purty solid pack. I got 'er all on my back an' climb the other side all right. Then I started down to the cabin. Well sir, that wasn't as easy as it looked! With that pack I got to goin' so fast that when I got stopped down to the cabin I smelled smoke. I looked down an' my skis was on fire! I'd been comin' too fast an' burned up my skis an' set the woods on fire too. Before I c'd stop it, it burned down my place an' that little spot o' timber I was just showin' you."



GEOLOGIST TELLS STORY OF EARTH'S EVOLUTION

A visitor standing on the rim of intricately sculptured Grand Canyon could well pause in awed silence and ask himself—what does it all mean? Whence came this superb masterpiece of color and contour, what forces have evolved this magnificent landscape rimmed by a far-flung plateau? Questions like these have been asked and are still being asked by countless thousands of observers and enthusiasts of the out-of-doors.

N. E. A. Hinds, associate professor of geology at University of California, has answered these questions in his recent book, *GEOMORPHOLOGY, THE EVOLUTION OF LANDSCAPE*. It is written for beginning students and laymen interested in the nature and history of the evolution of the present landscape. The causes—the seemingly mysterious physical forces that control the changes of the earth's crust—are explained in light of the most recent facts available in this field of science.

The rockhound who is eager to know the source and scientific explanation of the materials which constitute his hobby should turn to the chapter on rocks and minerals for a clear and interesting exposition. The forces influencing the creation of rock materials, the reasons why certain types of rocks are found in particular places, and structural features, are accurately explained. Familiar examples, many of them in the Southwest, are cited and many diagrams, sketches and photographs illustrate each point.

A fascinating section of the book deals with such natural phenomena as earthquakes and volcanoes. Extensive chapters on these two violent deformers of the earth's crust interpret their causes and effects, and again numerous pictures and sketches supplement the text and constitute an important part in understanding the material presented.

The book deals with the vital growing world about us as it is related most directly to our personal lives. In his own words Professor Hinds says, "We live on an ancient earth, but an earth vigorous and mobile . . . day after day, year after year, eon after eon, its relief is being modeled and remodeled by the ever active forces and agents at work on and below the surface. Its marvelously diverse landscapes are the product of a long and varied history. Their

evolution is a wonderfully interesting but complicated story . . . An understanding of her (Nature's) masterpieces is quite as important as an understanding of great literature, sculpture, painting, architecture, or music."

Prentice-Hall, Inc., 1943. 894 pp. \$5.00.

—ALITON MARSH

CALIFORNIA HISTORY IS REFLECTED IN CATTLE BOOK

Economic and social history of Southern California from 1829 to 1871 is presented in readable interesting style in Robert Glass Cleland's *THE CATTLE ON A THOUSAND HILLS*.

For his material, Dr. Cleland delved into old records, salvaging much from some 15,000 letters, documents and memoranda of Spanish land grants, accounts of Indian massacres and various petitions to congress which threw light on California's period of transition. Much of the story touches upon the life of Abel Stearns whose activities were closely associated with almost every angle of Southern California history of that era.

The hills of Dr. Cleland's book are the foothills that figured prominently in the transformation from cattle country to urban community or from Spanish to Anglo-Saxon dominance.

The student of history will find it fully documented, but it is entertaining as well as informative for those who want color and drama too.

Huntington Library, San Marino, California. 1942. 327 pp. \$3.50.

—MARIE LOMAS

BARONS AND BAD MEN IN STORY OF THE RANGE

Walter Pannell's little booklet *CIVIL WAR ON THE RANGE* gives a condensed version of the cattle industry in the Southwest—the first trail herds, cattle barons, cowboys and badmen. In it are the stories of almost legendary men such as Charles Goodnight, John Chisum, Billy the Kid, General Lew Wallace.

An appendix includes some interesting notes on the Big Bend country of Texas, which has been proposed as a national park. Published by Welcome News, Los Angeles. 10c.

SHORT CUT TO SPANISH IN MINIATURE BOOK

Desert folks of the Southwest always have been aware of the Spanish culture across the border. And they have been influenced, even if subconsciously, by the rich Spanish heritage on this side of the border. Now, in this new Pan-American era, knowing how to express themselves in the musical language of its people is acquiring a new importance.

A tiny booklet entitled *DESERT SPANISH "Pronto,"* recently has been written by Mario Valadez. A simple introduction to the elements of the language leads to a practical vocabulary classified according to related objects, actions, occupations, etc., followed by the commonest idiomatic expressions, brief conversations and a definition of Spanish-named American towns. 40 pp. 25c.

NAVAJO ETHNOLOGY IS SUMMARIZED IN MUSEUM

THE NAVAHO, by Frances E. Watkins, published late in 1943, is No. 16 of the Southwest Museum Leaflets. It is a 45-page summary of ethnological information on the Navajo Indians. An account of their origin, language and history is followed by a discussion of their food, homes, clothing and appearance. Their pottery making, weaving and silversmithing are described and illustrated.

Balance of the booklet is concerned with traditional social and religious life, including notes on chants and sandpaintings. Southwest Museum, Los Angeles, California. 20 photos. 30c.

Sun and Saddle Leather

By BADGER CLARK

It's been called "the best Western verse ever printed," and by popular demand the twelfth edition has just come off the press. Here are the collected poems of the Southwest's own cowboy-poet—poems like "The Glory Trail" and "Ridin,'" that have overleaped the printed page to become part of the great body of American folk-song.

"I have seen many poems and verses come out of the wild portions of the West; but these are the best."

—W. T. HORNADAY.

Bound in imitation saddle leather, with decorative end-papers in color.

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DESERT CRAFTS SHOP

636 State St.

El Centro, California

Mines and Mining . . .

Washington, D. C. . . .

Grants of small quantities of aluminum for experimentation in postwar models of civilian goods will now be made by WPB, provided the experiments "can be carried out without diverting manpower, technical skills or facilities from activities connected with the war effort." Decision is expected to stimulate research in development of lightweight automobiles, refrigerators and other durable goods. Order will not allow actual manufacture of any new consumer goods for current sale, however.

• • •

Carlsbad, New Mexico . . .

United States potash company is beginning an expansion program at its plant here to cost more than \$1,000,000, announced General Manager T. M. Cramer late in January. C. C. Moore and Co., San Francisco, original contractor for the plant, has been awarded the contract for improvements.

• • •

Salt Lake City, Utah . . .

Circulating tests on the catalytic cracker of the 100-octane gasoline plant here were started in mid-January. The "cat-cracker," one of the key units of the \$14,000,000 refinery, is the first to reach testing stage. P. J. Houston, construction superintendent for M. W. Kellogg company, said other units would be completed by early February and 100-octane fuel would be flowing latter part of February. Plant will be operated by Utah oil refining company.

• • •

Washington, D. C. . . .

Seventy small gold mines, closed by WPB ruling October, 1942, have been permitted to resume operations in past few months. This does not indicate revocation of the order, the board said, but because of improvement in general metals supply situation it can permit "more liberal" consideration of applications to reopen gold mines. Order closed mines in effort to divert miners to production of more critical materials.

• • •

Denver, Colorado . . .

Mining men at January meeting of Colorado mining association and American mining congress, western division, declared plastics would not take place of metals in the postwar world. Among even greater uses for metals would be steel-clad base metals, metal-covered plywood and similar developments now in experimental stage; resumption of production of now-scarce goods such as autos, refrigerators and all types of machines; increase in rural electrification and electrical appliances.

Los Angeles, California . . .

At a press conference here in January, it is reported, Lt. Commdr. Wm. S. Knudsen of WPB stated the government did not need any more aluminum and magnesium. From other sources have come reports that supplies of zinc, mercury and tungsten from captured region of Italy is being brought to United States and that tungsten also is being brought here from China by plane and Russian ships.

• • •

Douglas, Arizona . . .

Effective January 1 employees of Phelps Dodge corporation copper mines and plants in Arizona went on 48-hour maximum work week, according to H. M. Lavender, general manager. At some of the units men had been working as many as 56 hours a week. Lavender said the move would not result in any immediate drop in copper production although there might be a drop later, but Phelps Dodge 1944 output would exceed that for 1943.

• • •

Carson City, Nevada . . .

Of five leading metals production of all but zinc decreased during 1943 according to bureau of mines figures for Nevada based on 10 months production and November and December estimates. Zinc increased from 1942 value of \$1,896,642 to \$3,043,090. Gold decreased from \$10,328,920 to \$4,830,000. Silver decreased from \$2,647,776 to \$1,105,777. Copper decreased from \$20,246,446 to \$18,083,000. Lead decreased from \$720,384 to \$708,180.

• • •

Santa Fe, New Mexico . . .

Bureau of mines report shows increased production of four leading metals in the state during 1943. Based on 10 months production and estimates for November and December, zinc increased from gross value of \$8,641,746 in 1942 to \$13,456,718. Copper production fell somewhat but value increased from \$19,384,200 to \$20,249,840. Lead rose from \$617,472 to \$812,520. Silver decreased from \$480,832 to \$335,448. Gold, with biggest drop, fell from \$418,635 in 1942 to \$199,955 in 1943.

• • •

Henderson, Nevada . . .

Contrary to newspaper reports that light metals plants in the West soon would shut down, F. O. Case, Basic Magnesium general manager, declared that "the outlook for continued production here at BMI is much brighter than it was a month ago." It was pointed out that recently new expenditures of \$217,000 had been approved.

Albuquerque, New Mexico . . .

Oil production increase in New Mexico in 1943 was 20 per cent over 1942, the largest of any state except Texas, according to figures of H. J. Struth in annual review in Petroleum Engineer. He gives New Mexico's output as 38 3/4 million barrels. Texas' increase was 23 per cent, and 15 per cent increase was listed for California, the third state in production increase. Drilling activities in the state decreased, making gain due to increased allowable production.

• • •

Yerington, Nevada . . .

Engineers report location of extensive copper deposits by International Smelting and Refining company after two years of exploration and development. Indications are that deposits in Adama-Guild-Herrin group and adjoining claims may approach magnitude of great copper deposits of Ely area. The company, an Anaconda Copper subsidiary, operates Rio Tinto copper property in Mountain City field and Copper Canyon copper-gold producers in central Nevada.

• • •

Salt Lake City, Utah . . .

State production of gold, silver, copper, lead and zinc for 1943, \$124,348,439, was highest in Utah's history, according to bureau of mines report. Rise was due to greater production of copper and zinc and to higher prices for all five metals. Utah led the nation in gold output. Utah Copper company's record of treating almost 100,000 tons of copper-gold-molybdenum ore per day was called "phenomenal." Value of 1943 gold decreased to \$13,361,705 from 1942 total of \$13,704,040. Silver decreased to \$6,619,392 from \$7,519,680. Copper increased to \$83,993,000 from \$74,219,222. Lead increased to \$9,805,000 from \$9,638,620. Zinc increased to \$10,569,342 from \$8,470,998.

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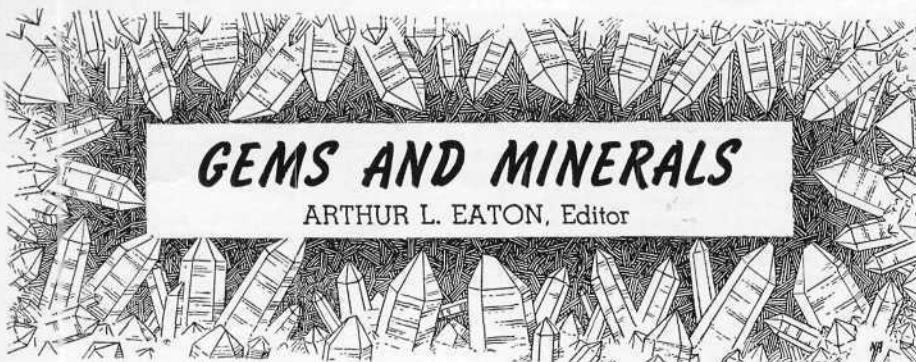
Westmorland, California . . .

Pure Oil company, a Texas firm which recently leased 520 acres state-owned land bordering Salton Sea, will start drilling on section 36, two miles south of Truckhaven, on Highway 99, west of Salton Sea, it is reported, following seismograph research.

• • •

Elko, Nevada . . .

As result of official bureau of mines report that northeastern Nevada has richest known oil shale in United States, Senator Pat McCarran is endeavoring to insure location in Elko-Carlin area of one of three proposed bureau of mines laboratories to experiment with oil shale, and various means of extracting oil from shale. Colorado and Utah, which have an oil shale deposit in common, have become rivals for a second plant, while the Dakotas have put in bid for a third.



GEMS AND MINERALS

ARTHUR L. EATON, Editor

LOUIS MARLEAU, WELL KNOWN CALIFORNIA LAPIDARY, DIES

Louis Etienne Marleau, well known lapidary of Oceanside, California, passed away January 6, 1944, at his home, 201 South Tremont. He was one of the old time lapidaries, having established a business in Los Angeles about 1900. He was an expert in cutting semiprecious stones such as amethyst and tourmaline. He cut for Shady Myrick and the two were friends for many years. He operated a gem cutting and polishing shop in Oceanside during his early residence there. Marleau was a native of Valley Field, Quebec, Canada, but had been a resident of U. S. for 55 years. His many friends grieve at his passing and extend sympathy to Mrs. Marleau.

COLORADO MINERAL SOCIETY ELECTS OFFICERS FOR 1944

Mignon W. Pearl, secretary-treasurer of Colorado mineral society, Denver, reports election of the following officers: Chester R. Howard, president; Harvey C. Markham, vice-president; Fred F. Shaw, second vice-president; Mrs. Mignon W. Pearl, secretary-treasurer.

Colorado mineral society is a nonprofit educational organization to promote study of Colorado minerals and other geologic materials and to encourage mineral collecting as a hobby. Membership is open to all. A new classification of membership was voted at December meeting. For annual dues of \$1.50, husband, wife and children under 18 may belong. Individual dues are \$1.00.

Regular meetings are first Fridays, October-May in Colorado museum of natural history. Summer meetings are field trips. Everyone is welcome.

The Colorado group holds an annual photographic contest. Pictures of interest to mineral collectors are judged and mineral prizes awarded.

Richard M. Pearl, former secretary of the society, was speaker at January meeting. He discussed recent developments in gemology. Pearl was the second person in U. S. to receive the title of certified gemologist from the gemological institute of America. He also is an associate of the gemological association of Great Britain.

SEARLES LAKE CLUB HOLDS FORTY-NINER BENEFIT PARTY

Searles Lake gem and mineral society, Trona, California, held the annual '49er benefit party January 22 at Trona club. Proceeds went to local and national organizations. Rockhounds far and near regretted that they could not attend the Searles Lake celebration.

The group regularly meets third Wednesdays 8 p. m. at Trona club. Public is invited. Modesto Leonardi, first president of the society, was speaker at first meeting of its fifth year, January 19. Officers for 1944 are: Phil Lonsdale, president; Caecel Whittorff, vice-president; Ann Talchick, secretary-treasurer; Harvey Eastman, George Pipkin, Ann Pipkin, Virgil Trotter, C. M. Edwards, directors.

TENTATIVE CLASSIFICATION FOR SEMIPRECIOUS STONES

Many classifications of semiprecious stones are used, but most of them are rather unscientific. The following groups, based largely on physical characteristics, are offered for consideration:

GROUP ONE: Beryl, including morganite and aquamarine, sapphire, topaz (several colors), tourmaline, kunzite, hiddenite, hyacinth and zircons, green, lavender and other gem garnets, several varieties of opal, basanite, true jade, benitoite and amethysts. Most of the stones in this group are quite hard and transparent, have good color and luster, and many are quite rare.

GROUP TWO: Rock crystal, turquoise, common and fire opal, peridot, amazonite moonstone, lazulite, amber, citrine, carnelian, sard, agate, chrysocolla, hematite, chrysoprase, epidote, andalusite, staurolite, labradorite, californite, and jasper. These stones are often more opaque, poorer color, softer, more easily found, and therefore of less value.

NEW VOLCANO ERUPTS AT FOOT OF PARICUTIN

Those interested in igneous rocks and minerals will be particularly interested to hear that a new and active volcano has sprung up at the foot of one-year-old "El Paricutin." Some months ago a second crater opened in the side of the "old" volcano 300 or 400 feet below the first crater, but this was an actual part of the first volcano itself. Also, many fumaroles arise in the lava of any eruption, formed by steam imprisoned in the surface lava already erupted. These always are temporary, sometimes lasting only a few days.

The new cone, however, is not of this type. It is quite evidently connected with the boiling magma far below the earth's surface, as its eruptions are quite violent and it has thrown out enough lava to cover almost a square mile of territory. The new 100-foot cone stands squarely at the foot of its larger neighbor.

COLORFUL MINERALS

FELDSPAR

"That's nothing but feldspar," is a common remark of those who fail to realize what a large and varied family is represented by the name. Although often misrepresented, true moonstone is a feldspar, hardness six, of the variety albite. It is colorless, but when polished properly en cabochon, shows a beautiful, blue iridescence. This variety is found at its best in Ceylon and the East Indies. A closely related gem is Canadian labradorite, a mineral which is slightly more opaque and shows bluish purple iridescence on cleavages. Other varieties known to gem cutter and mineralogist alike are: microcline and orthoclase, common feldspars, white to flesh pink in color, and amazonite or amazonstone, a bright greenish blue. Add to these the closely related minerals nephelite, grey; sodalite, deep blue; lapis lazuli, blue and white, often speckled with golden colored pyrite; and genuine leucite; and one has a colorful family. Fine, hexagonal crystals of some varieties are found from time to time.

CABOCHON HINTS . . .

Orlin J. Bell suggests that rather light pressure should be applied in cabochon cutting. Press only to the point where the wheel cuts freely and seems to like it. More pressure merely slows the speed of rotation and the cabochon will begin wearing down the wheel. Fingers, too, will be safer with less pressure.

If stones tend to pop off the dop stick, especially when cold, add a few drops of castor oil to the mix. Use the oil sparingly as too much causes the wax to heat too easily. To correct, add dry flake shellac, or resin, opticians' pitch, or ordinary red sealing wax or canning wax.

SUCCESS OF FROZEN FOODS DEPENDS ON CRYSTAL SIZE

University of Texas reports development of the flash freeze method for fresh foods. Students of crystals will be interested to know that the whole success of the frozen foods industry depends on the size of the hexagonal ice crystals formed while the freezing is in progress. When water freezes slowly the crystals are quite long, as in brittle white ice, but when it freezes rapidly the crystals are so tiny as to be hardly visible.

Luis Bartlett, test engineer of the university's test research, states that the time of freezing has been reduced to as little as two minutes. These small crystals make it possible to keep frozen foods indefinitely, while food frozen slowly and forming long crystals spoils in a very short time.

QUIZ FOR THE ROCKHOUNDS

A rockhound found the labels on his specimens partially destroyed. Can you help him fill in the proper names? Answers on page 35

1. - u - - t -	18. t - - q - - i - e	35. - l a - - n - m
2. - h - l - e - n -	19. a - t - m - - y	36. - i - - e l
3. - - p - - r	20. - i - p t - s e	37. b - r - u -
4. - g - - e	21. - p - -	38. d - - m o - d
5. - o l o - - e	22. m - - - c h - t e	39. c h - - - o c - 1 1 -
6. s - e - t i - -	23. - u - p - u -	40. h - m a - - t e
7. - - n -	24. - r - - i d - l - t e	41. b - - y -
8. i - - i - m	25. - - - a	42. - i - c - n
9. - - g n - s - u -	26. - o u - m - l - - e	43. - - p - z
10. - - d -	27. - m e - a l -	44. l - m o - - t e
11. m a - g a - - s -	28. p - - h n - t -	45. p s - - d - m - - p -
12. - z - - i t -	29. - y p - u -	46. - a l c - - -
13. j - - - e -	30. s p - - u - e n e	47. - a l -
14. - u m - c -	31. - a r - e -	48. k - - z - - t -
15. a - e - - y - t	32. f - i - -	49. p - r - - h y - l - t -
16. f - s - - 1	33. - l - o r - t -	50. - u -
17. - a r - l -	34. c - i a - t - l - t e	

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INTRODUCTORY OFFER—One dollar each lot. Five all different Fluorescent Agates—polished. Thirty rough Mexican Opals. Fifty nice pieces Turquoise. Twenty different polishing specimens. Postage ten cents. Minerals and gems on approval. DR. RALPH MUELLER, Professional Building, Kansas City, Missouri.

AGATES, Jaspers, Opalized and Agatized woods, Thunder eggs, polka dot and other specimens. Three pound assortment \$1.50 postpaid. Glass floats, price list on request. Jay Ransom, 3852 Arboleda Ave., Pasadena 8, Calif.

Beautiful Chrysocolla Crystals. Specimens containing blue, green and white crystals. All sizes, \$1.00 and up. Also cutting material reasonable. Artcraft Stone Co., 2866 Colorado Blvd., Eagle Rock, Calif.

JADE—Near black, cuts out almost black. This color makes fine crosses. Slice 75c. Allan Branham, Jade Hunter, Box 562, Lander, Wyoming.

20 mixed fossils for a dollar bill. 100 ancient Indian arrowheads \$3.00. 10 tiny bird arrowheads \$1.00. List Free. Lear Howell, Glenwood, Ark.

\$2.50 brings you prepaid six rare and beautiful crystallized Arizona minerals. Vanadinite, Dioptase, Wulfenite, Willemite, Chrysocolla, Azurite. Specimens 1½x2 or larger. Wiener Mineral Co., Box 509, Tucson, Arizona.

100 Jewelry Stones removed from rings, etc., \$2.00. 12 articles of Antique Jewelry, rings, pins, etc., \$3.00. B. Lowe, Box 311, St. Louis, 1, Missouri.

CABOCHON CUTTERS with our unnamed mixture of good cutting material sawed ready to shape cut and polish you can finish several fine stones. 25 cents for two ounces and with money back guarantee. Gaskill, 400 North Muscatel, San Gabriel, Calif.

JADE—Another new find—rich deep green with darker green spots—slice \$1.50. Allan Branham, Jade Hunter, Box 562, Lander, Wyoming.

A Curiosity—12 prehistoric lizard scales for \$1.00. Shaped as a diamond on playing card. Just as big. Color jet black. Jack The Rock Hound, P. O. Box 86, Carbondale, Colorado.

JADE—Nice rich medium green, makes fine brooches, ring sets—slice \$2.00. Allan Branham, Jade Hunter, Box 562, Lander, Wyoming.

THE ROCKHOUND COLONY GROWS—Fourteen lots sold to date and more coming, also six acres of back land for orchard. Send in a good name for colony and postoffice. We're going to have a colony we'll all be proud of. Ideal location—mild winters—cool summers—virgin collecting country and finest scenery. Lots cheap—\$150 for 100x300 ft. on U. S. 160. We need cutters, dealers, collectors, hobbyists, silversmiths, etc. Also plenty in other lines of business, especially a good tourist court with at least 16 cottages, because those who have bought lots will want a place to live while they build. Many more are intending to come and buy and when the tourist trade starts this will be one of the best locations in the country. All interested write to The Colorado Gem Co., Bayfield, Colo.

INDIAN RELICS, Curios, Coins, Minerals, Books, Old Buttons, Old Glass, Old West Photos, Weapons, Catalog 5c. Lemley Antique Store, Osborne, Kansas.

CABACHON CUTTERS—Don't miss this one. Stone Canyon Jasper—beautiful blending of reds, yellows and browns slabbed for Cabochons. 20 cents per square inch. This will please you or your money refunded. Gaskill, 400 North Muscatel, San Gabriel, Calif.

ROCK COLLECTORS, ATTENTION! — A COLORFUL COLLECTION — 5 slabs Cuttables, \$1.00; Sky Blue Fluorite Xls., \$1.00; Azur-Malachite, \$1.00; Chalcanthite, \$1.00; Amethyst Phantom Xl., \$1.00; Iron Pyrite and Qtz. Xl. group, \$2.50. Realgar & Orpiment Xls. on Calcite, \$2.00; Purple Dumortierite Radiating Xls., \$1.00; White Aragonite Stalactites, \$1.00; Silky Asbestos, \$1.00; Vanadinite Xls., \$1.00. Free polished specimen. All the above postpaid \$8.00. December offer still good. The Rockologist, (Chuckawalla Slim), Paradise Trailer Court, 627 E. Garvey Blvd., Garvey, Calif.

Worm bored Petrified Wood, \$1.00 per pound. Dinosaur Bone, 50c and \$1.00 per lb., plus postage. Bill Little Gem Cutting, Hesperus, Colorado.

JADE—A new color—grey-green-mottled. The only piece of this variety found up to now—slice \$1.50. Allan Branham, Jade Hunter, Box 562, Lander, Wyoming.

50 Genuine and Synthetic slightly damaged stones assorted \$7.50. Genuine Zircons blue or white 3 for \$3.75. Twelve genuine Cameos or Opals \$2.50. B. Lowe, Box 311, St. Louis, 1, Missouri.

Minerals, Fossils, Gems, Stamps, Coins, Pistols, Glass, Bills, Indian Relics, Bead Work. Catalogue 5c. Vernon D. Lemley Curio Store, Las Cruces, New Mexico.

Montana Moss Agates in the rough for gem cutting \$1.00 per lb. plus postage. ELLIOTT'S GEM SHOP. Petrified Picture Wood and Moss Agate Jewelry Hand Made in Sterling Silver Mountings—Rings, Bracelets, Necklaces, Brooches, Tie Slides, etc. Mail orders filled anywhere in U.S.A. 26 Jergins Arcade, Long Beach 2, Calif.

AGATE—We hunted Montana Agate for many years—near Fallon, Montana. We offer now Agate we have held back—not field run, but selected stock. Good color, or spots, guaranteed in every Agate at \$1.00 lb. Allan Branham, Jade Hunter, Box 562, Lander, Wyoming.

Swisher Rocks and Minerals, also Corals, Shells, Statues, etc. We also buy mineral species and woods. Must be good. Swishers, 5254 So. Broadway, Los Angeles 37, Calif.

Gem Jasper from Indian Ridge, Ohio. Beautiful pastel colors. Makes lovely cabochons; 2 ounces rough for only 25c, or \$1.50 per lb., postpaid. Lake Superior Agates 10c each and up. Wyoming Jade, gem quality, slabs of all kinds. Send for list. James W. Riley, RR 2, Springfield, Ohio.

Tourmaline matrix, in quartz crystals, \$1.00 to \$30.00, tourmaline pencils, 50c to \$5.00, Essonite garnet-green-clusters, 50c to \$3.00, unique specimens. Sagenite agate, \$1.00 to \$4.00, specimen rough nodules. Gem list 10c. Return specimens if not satisfactory. The Desert Rats Nest, 2667 E. Colorado St., East Pasadena, Calif.

AMONG THE ROCK HUNTERS

Orange Belt mineral society enjoyed a varied program January 6 at San Bernardino junior college. Mary Van Lanningham spoke on calcite and its occurrence; Mrs. D. H. Clark on uses of calcite. J. C. Filer described calcite prisms and told how they are used for polarizing light. R. H. Eells read a paper on use of copper in jewelry.

Charles O. Parker, Denver, Colorado, assayer, is giving a complete course in mineral identification at Opportunity school Monday through Thursday, 7:15 p. m. The instruction is free.

Sequoia mineral society has elected the following 1944 officers: Gates Burrell, president; Leon Dial, vice-president; Nellie Petersen, secretary-treasurer; Mabel Andersen, assistant secretary; Jesse McDonald, federal director; Pete Etzen, Florence Chapin, Hans Andersen, Frank Dodson, board of directors.

Henry Mulryan discussed talc at January dinner meeting of Pacific mineral society, Los Angeles, held in Hershey Arms hotel, 2600 Wilshire Blvd. Mulryan is a consulting engineer formerly connected with Johns-Manville company and Gladding-McBean company.

H. W. Ender, Gunnison, Colorado, reports a promising cinnabar deposit south of Gunnison.

Mineralogical Society of Arizona, Phoenix, studied specific gravity at December 2 meeting. The next gathering, December 16, was given over to discussion of the strategic minerals. In January the society took up the study of chemical characteristics, speaker, Scott L. Norviel.

Rocky mountain federation plans that each member society prepare a collection of the outstanding minerals in its locality to be circulated in turn among the groups. Dr. Olivia McHugh, member of mineralogical society of Utah, originated the proposal.

Speaker Kintz of U. S. bureau of mines lectured on safety at January 11 meeting of Texas mineral society, Dallas. At February 8 gathering the group held a rock auction. Specimens were donated by members to augment the treasury.

Helyn C. Lehman is chairman of the Red Cross committee of Los Angeles mineralogical society. All members plan to donate to the blood bank.

Louise Eaton wishes to thank those organizations who have kindly sent her names and addresses of officers, time and place of meetings and other information about their activities.

Mineral minutes of Colorado mineral society states that gilsonite or uintaite is produced only in Utah and Colorado. It is a vein deposit derived from the alteration of petroleum; related to asphalt but harder; requires a higher temperature to fuse; is used in making paint, varnish and rubber products; in briquetting ores and coal. Original source is Uintah mountains, Utah, probably the oldest mountains in U. S.

Sixteen members of Mineralogical Society of Arizona are thumbnail and micro-mount enthusiasts.

Southwest mineralogists, Los Angeles, plan to stage their annual show Saturday and Sunday, April 1 and 2.

Southwest mineralogists of Los Angeles now meet at Harvard playground, 6120 south Denker. They have adopted the policy of having a short lecture following the business meeting to replace the study class formerly held second Fridays. "Thus," writes corresponding secretary Dorothy Craig, "killing two birds with one gallon of gas." The "shortie" topics have been lead, zinc and chromium. Field trips are visits to local collections or points of interest. They have enjoyed the collections of Mr. and Mrs. I. C. Gully in Venice and of Nettie and Albert Hake. Aluminum company of America presented a colored movie January 21, called "Unfinished Rainbows."

A semi-potluck turkey dinner marked Sequoia's annual birthday celebration February 1, held in the First Baptist church, Selma. Members contributed rock specimens for door prizes and also arranged an interesting mineral display. Oscar Venter and Al Dickey were in charge of fluorescent minerals.

January Pacific mineralogist, publication of Los Angeles mineralogical society, continues the articles on fundamentals, dealing this month with color.

Grays Harbor geology and gem society, Hoquiam, Washington, has elected the following: Willis I. Clark, president; John Friend, vice-president; H. J. Pryde, secretary-treasurer. Annual Christmas party was held at the home of Mr. and Mrs. P. W. Walker in Junction City. Rock specimens donated by members for auction netted \$26.00 for the club treasury. Forty-five members and visitors attended.

Eldred V. Ansbach, petroleum chemist, talked on minerals and their associated chemical elements at January 20 dinner meeting of Los Angeles mineralogical society held at Boos Bros. cafeteria. E. E. Peterson also talked on life and work of Louis Agassiz.

East Bay mineral society, Oakland, California, urges all in the district who are interested in rocks and gems to meet with them first and third Thursdays in the auditorium of Lincoln school, 11th and Jackson, 8 p. m. W. G. Paden spoke on California-Oregon trail at January 6 meeting. January 20, R. E. Lamberson recounted his adventures on a prospecting trip from Reno through Death Valley by team and wagon.

Answers to Rockhound Quiz on page 33

1. quartz	26. tourmaline
2. chalcedony	27. emerald
3. copper	28. prehnite
4. agate	29. gypsum
5. dolomite	30. spodumene
6. steatite	31. garnet
7. zinc	32. flint
8. indium	33. fluorite
9. magnesium	34. chiastolite
10. jade	35. platinum
11. manganese	36. nickel
12. azurite	37. barium
13. jasper	38. diamond
14. pumice	39. chrysocolla
15. amethyst	40. hematite
16. fossil	41. beryl
17. marble	42. zircon
18. turquoise	43. topaz
19. antimony	44. limonite
20. diopside	45. pseudomorph
21. opal	46. calcite
22. malachite	47. talc
23. sulphur	48. kunzite
24. crocidolite	49. pyrophyllite
25. mica	50. dum

Cogitations . . . Of a Rockhound

By LOUISE EATON

Sumtimz it seems as tho rox is just as pritty when you don't know all about their innards as when yu do know th' proportions uv aluminum 'n oxygen, etc., that compose um! Maybe it gives yu a sort uv satisfaction to kno how geodes formed but also p'raps where ignorance is bliss, wisdom approaches folly. Howsumever, if you wants to buy juels it pays to kno yur rox.

The study uv rox leads yu into all sorts uv ologies such as ge—gem—n' archae. Astronomy cumns in fer a share uv attention too, if field trips are possible. By'mby, yu gets sos yu can read a cut in th hillside just like an open book. Yet, with all this knowledge, duz a polished thunder egg 'r a rainbow agate look any beautifuller?

I know how Tantalus felt of old,
When he couldn't get a drink,
Or gather the will o' the wisp of fruit
That grew at the water's brink.

For, the other day, I had to go
Across the desert floor,
And there in sight—but not for me—
Were the field trip trails of yore.

Oh, they called and beck'd as the bus
sped on,
And my heart began to weep
For the fathomless peace of the field trip
days—
Just wait 'til I get a jeep!

I. O. Lee talked about rarer minerals of the rarer metals at January 4 meeting of New Jersey mineralogical society, Plainfield, New Jersey. The regular meeting place is in Plainfield public library.

Dr. Alex Clark of Shell oil company talked on oil geology at January 14 meeting of Long Beach mineralogical society. Board meeting was held at home of J. E. Webb January 19. Lapidary meeting took place at Jim Bond's, 1521 Gardenia avenue, January 20.

Lelande Quick, who writes Amateur Gem Cutter in DM, was guest speaker at Rotary club of Hermosa Beach January 25, and at Lions club, Manhattan Beach January 27. He spoke on gem cutting.

Mr. and Mrs. W. Scott Lewis derive extra pleasure on their trips by combining interest in birds, animals and flowers with their primary rock hunting purpose.

ROCKHOUND'S PRAYER

By ORLANDO WEIGHT
Pasadena, California

The rockhounds are restless and somewhat sad
While dreaming of wonderful trips they've had.
Sad because old desert haunts they adore
Are casualties now of this merciless war
Where the jeep, the tank and bomber today
Run rampant preparing our boys for the fray.

We pray to the Master, whose artistic hand
Created our gems and our desert land,
For the safe return from Japan or the Rhine
To loved ones in homeland, your boy and mine.
We also request, if and when He can,
The desert's return to the desert clan.

UNUSUAL AND RARE CUT GEMS--

in Precious Topaz, Golden-Beryl, Rhodolite and Hessonite Garnets. Also rare green.

ALL KINDS OF AGATES
\$1 to \$10 Dozen

Spinel of all kinds. Cabochons in Turquoise, Emeralds, Azur-Malachite, Golden-Starolites, Swiss-Lapis, etc.

All kinds of Scarabs.

CEYLON ZIRCONES—50c per carat.

STAR SAPPHIRES—\$1 per carat.

COLOMBIA EMERALDS—\$10 up each.

Synthetic Stones. Rare Cameos, Necklaces, Stickpins, etc. Rough Gems for Cutting in Garnets, Tourmalines, Quartz-Topaz, Nephrite, etc.

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1. OREGON NODULES — These are all nice firm nodules from the famed Priory ranch locality of central Oregon. **30c and 50c a pound.**

2. BLACK AGATE NODULES — These are probably the most beautiful of all nodules, with the possible exception of the Plume Nodules from Oregon. They are black, shading off to grey and even white in some instances. **50c a pound.**

3. BLUE AGATE NODULES — Beautiful blue centered nodules from Lead Pipe Springs. **50c a pound.**

4. GEODE-NODULES — These thunder eggs are from the Chocolate Mtns. of Southern California, and while some are crystal-lined geodes, some are solid center nodules. **35c per pound.**

5. FOR \$1.50 we will send you one each of the above listed nodules, in cutting size.

We will saw any nodule listed above for only 10c, or saw it and polish one-half for 50c.

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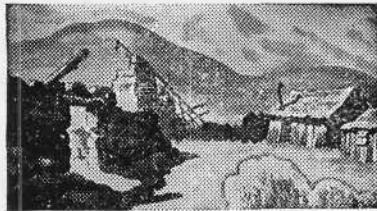
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and polishing equipment. Lelande Quick, who conducts this department, is former president of the Los Angeles Lapidary society. He will be glad to answer questions in connection with your lapidary work. Queries should be addressed to Desert Magazine, El Centro, California.

By LELANDE QUICK

On my recent vacation trip to the desert I found everything pre-war. The desert and the rocks are still there. The road-side dealers still hold forth and report their business good.

I also discovered what used to happen to the scrap in desert towns before the scrap drives. It was scattered over the landscape. I saw enough scrap to build a battleship—a terrible reminder of the tragedy of waste characteristic of America.

I recently experienced a thrilling evening when I met with three friends to divide a 10-pound package of opals from Australia. The strings were untied and while we all looked on bug-eyed, four large boxes were filled with opals that had been weighed without too much examination. The boxes then were shuffled around by a disinterested party while our backs were turned and we all made our selection. Then the fun began and we exclaimed over our treasures for the rest of the evening.

Out of this experience I can offer the following advice. Don't order more than \$99.00 worth at a time. When you get \$100 worth or over you have to pay a consular fee, pay a broker a stiff price to get them out of the customs, and run all manner of errands to get your package. Don't permit your package to contain any "faced" or partly processed opals, for then a 10 per cent duty is added. The opals now coming through are from the bottom of the barrel—they're not as good as they were five years ago for the same money but they still are a good buy.

Fair opal for amateurs, known as "practice opal," can be bought for 50 cents an ounce, but it is wiser to buy the material priced at from \$2.00 to \$10.00 an ounce. If you are considering importing any (from dealers advertising in the mineral magazines) the best procedure is this: Order from \$50 to \$90 worth of rough opal only with half of your order for practice opal, and the other half for better grade but to include no faced or boulder opal. Order it sent by prepaid parcel post to your bank and send your order via air mail (70 cents), to save three weeks' time. The opals will arrive at the bank in about 70 days when you can examine them before paying. If they are unsatisfactory the bank will return them. If they are all right, pay the bank the amount of your order and that is all.

The best grade of opal comes as seams in half-ounce pieces of matrix. To get the most out of this the chunk should be sawed in half if it contains two seams and the pieces lapped down to the fire. Cabochons for mounting in rings should be finished flat—not loaf shaped. When flat, the fire shows at any angle. If you want to make a ring it is wise to visit a good jeweler and see his selections for ideas. Quality opals about one-half inch in their widest part bring from \$300 to \$600, including the mountings, in the better stores.

So far I have had but one dissenter to my recent stand on opal-lucite jewelry but many people have applauded the idea. One dealer said he had to carry it because for a time there was a small demand but now he's stuck with it. I still think that imprisoning an opal in a piece of lucite is worse than wearing a diamond collar button in a celluloid collar.

E. J. Mailloux reports that so far the offers to buy equipment outnumber the offers to sell by about seven to one. The exchange idea outlined in December and January issues of Desert

This page of Desert Magazine is for those who have, or aspire to have, their own gem cutting and polishing equipment. Lelande Quick, who conducts this department, is former president of the Los Angeles Lapidary society. He will be glad to answer questions in connection with your lapidary work. Queries should be addressed to Desert Magazine, El Centro, California.

Magazine is just getting under way as this is written. In the meantime restrictions are lessening and diamond saws and other equipment now can be bought from some dealers.

Ratnapura is in the news. It is the district of Ceylon richest in rubies and semi-precious stones and therefore the richest gem field in the world outside of the diamond mines. The ruler and owner of the district sent his son to the University of Southern California to study gemology. It will be news to many that U. S. C. is the only university in the world with such a course.

Ratnapura, with his pockets filled with cut gems as big as hazel nuts, went into chortles of delight as I talked to him one evening. "For excellence in my studies my father just cabled me permission to buy the greatest gift in the world," he said. "I bought a red Lincoln Zephyr today, all upholstered in red leather." And then he went on, "If you ever come to Colombo, Mr. Quick, don't go to the hotel. You must be my guest. My father has 12 palaces just for guests." And so I have another dream to turn to once in a while.

Word recently came from him that he was all right and that he counted his evening at the Los Angeles Lapidary Society meeting as one of the great evenings of his life. With such treasures at his finger tips he went into rhapsodies over Nipomo sagenite and orbicular jasper.

DID YOU KNOW—

• The most precious jeweled ornament in the world is not a crown or a scepter. It is the shawl of the Gaekwar of Baroda, India, composed entirely of pearls with diamond corners and a diamond center. Worth many millions of dollars, it is said to have been made for the tomb of Mohammed at Medina, Arabia.

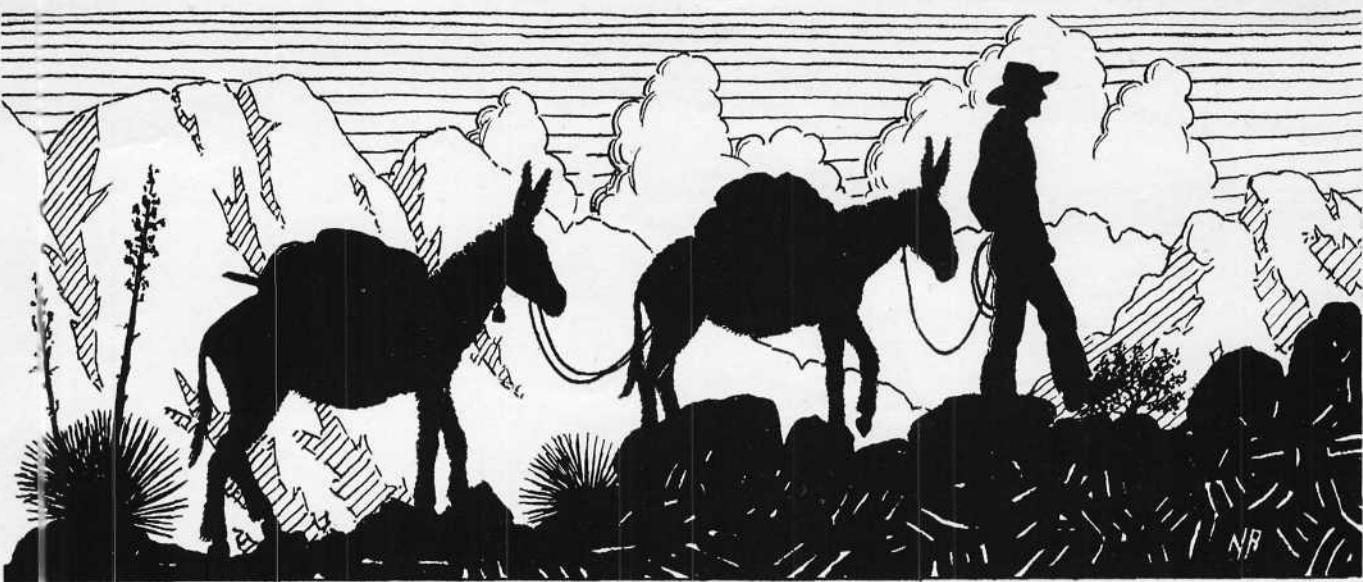
• Chalcedony (agates, jaspers and woods) occurs in 28 California counties. It is the most popular material with amateur lapidaries. If you send me a postal I'll tell you if it is found in your county and where.

LAPIDARY HELPS AND HINTS . . .

Roland Willis advises the soldering of a copper disk over the end of an old hose nozzle. Drill a needle point hole in the center and turn on the water. The resulting fine forceful stream will clean any geode or specimen of all mud, tin oxide or anything soluble—pronto.

James Underwood gives the following directions for mixing plaster of paris for mounting rocks for sawing: Allow two parts water to one part plaster. Pour plaster slowly into water and stir vigorously until it is of whipping cream consistency. Make box like containers or trough arrangements for the setting of stones, wash the rocks and grease the containers. Water used from washing containers of the previous batch will set the plaster fast. A drop of Le Page's glue will retard the "set" an hour. (Others claim it will set the plaster faster.) Plaster should be purchased from builders' supply houses for about \$1.50 for a 100-pound sack.

If you have suspected iris agate to lap, drop it on a piece of plate glass and you can then observe the development of the color bands as you work.



FOLLOW THE DESERT TRAILS . . . IN BOOKS! . . .

Here are books which will take you into the heart of the Desert Country. They will lead you back through modern exploration, into 400-year old Spanish history, into the legendary days of Indian gods and the mythical days of creation.

160 GEOMORPHOLOGY. N. E. A. Hinds. Dramatic, complicated story of evolution of earth's landscape. Tells how face of earth has come to look as it does today, gives better understanding of world about us. Geology simplified for student and general reader. Among abundant photos, sketches, diagrams and maps are many of the Southwest. Extensive biblio., 894 pp. \$5.00

162 DESERT CHALLENGE. An Interpretation of Nevada, Richard G. Lillard. History and geography combined to give life and dynamic personality to least known state in America. From geological history, through weather, wild life, gold camp days, to modern "Divorces while you play." 46 photos printed in sepia offset, folding map. Appen., index, 397 pp. \$4.00

163 THE HUMBOLDT. Dale Morgan. Dramatic story of a Nevada river. "Mearnest and muddiest, filthiest stream, most cordially I hate you," was the general sentiment of settlers, traders and miners who challenged it. Its history and that of the men who struggled against it is more bizarre than fiction. Illus., biblio., index. 374 pp. \$2.50

164 TALES OF THE PIONEERS. W. A. Chalfant. Last historical chronicle to be written by late dean of Western editors. Early days in mining camps of California and Nevada written in picturesque style of the times. \$3.00

165 THE OUT TRAIL. Mary Roberts Rinehart. An enjoyable account of the author's experiences while exploring the desert, in the Southwest and in Mexico. Humor and enthusiasm, beauty and drama combined in a delightful travelog. Limited number. 246 pp. \$1.00

166 ONE MAN'S WEST. David Lavender. Intensely real, exciting, heroic tale of modern pioneers, revealing a West of today as romantic and colorful as yesterday's. Informal autobiography, in which mountain and desert play no less a part than such miners and cattlemen as Tom Walsh, Al Scorpion, the Mormons, renegade Pahutes and Navajo cowboys of Monument Valley. Line drawings, 298 pp. \$2.50

167 LORENZO IN TAOS. Mabel Dodge Luhan. Of this biography of the literary genius D. H. Lawrence, Willa Cather says, "I am sure it is the best portrait there ever will be of Lawrence himself. It's amazingly spontaneous and amazingly true." The author knew him well during the last years of his life, spent at Taos, New Mexico. Includes over 90 hitherto unpublished letters from Lawrence. Photos, 351 pp. \$2.00

New titles have been especially selected for you this month. Some are out of print editions, only a limited number being available. So send your order immediately. Ask for complete catalog of titles on the Southwest. Desert cards enclosed with gifts.

168 NAVAJO SILVERSMAITHING. A Brief History, Arthur Woodward. How silversmithing was introduced among Navajo Indians, its development to present day, origins of jewelry designs. Appen., including field notes of Richard Van Valkenburgh. Biblio., index, 78 pp. \$1.85

169 SUN AND SADDLE LEATHER. Badger Clark. Sweep of western skies and smell of campfires permeate these poems of the cowboy and his range, written in the vernacular of the West. 201 pp. \$2.50

147 THE DEVIL'S HIGHWAY. Richard A. Summers. Vivid historical romance for youthful readers based on life and work of Padre Kino in northern Mexico and southern Arizona in 17th century. Exciting plot involves Indians, alchemy and exploration. Lithographs by Nils Hogner. 299 pp. \$1.75

148 WATERLESS MOUNTAIN. Laura Adams Armer. A Navajo boy is trained in the ancient religion and practical knowledge of his people. Awarded Newberry medal as most distinguished contribution to American literature for children, 1931. Illus. from 16 paintings by Laura and Sidney Armer. 212 pp. \$2.50

SPECIAL

SOME DESERT WATERING PLACES in Southeastern California and Southwestern Nevada, Walter C. Mendenhall. More than 300 water-holes in Colorado and Mojave deserts, Death Valley and adjacent Nevada area described and located. Mineral resources, physical features, climate, water supply, desert travel notes, main routes. Water-supply Paper 224, U. S. Geological Survey, Washington, 1909. Photos, pocket topographic map, index, 98 pp. Limited number only. \$1.00

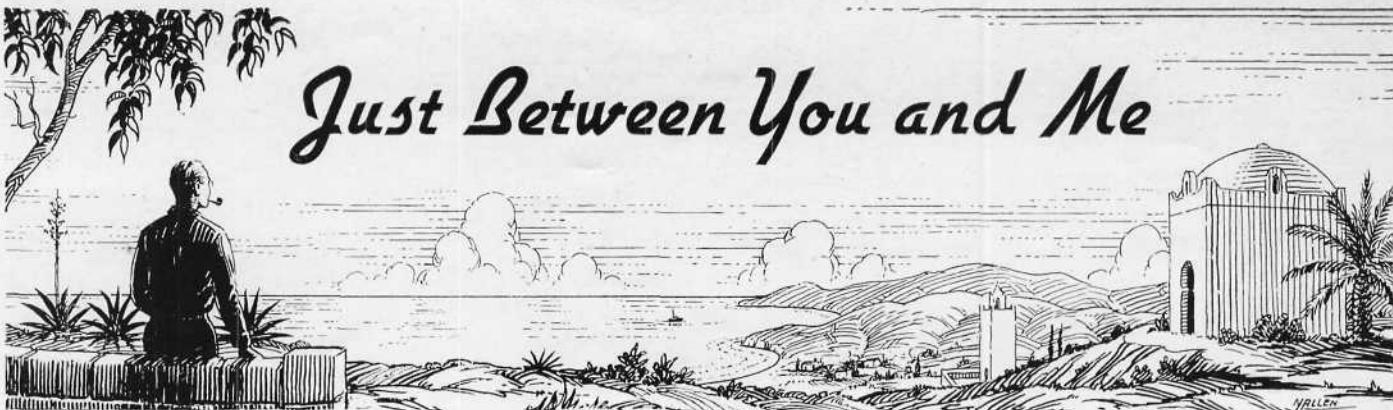
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Just Between You and Me

By RANDALL HENDERSON

WITH THE ALLIED FORCES IN AFRICA—According to news reports from the States, congress has been debating the payment of a bonus to soldiers who are mustered out at the end of the war. There appears to be some difference of opinion as to the amount of the bonus. I overheard one of the privates suggest a simple solution. "I'll be glad to settle for one of these army jeeps," he announced.

In truth, almost any of the soldiers would do that. This is one point on which the men in the army are almost unanimous—they all want to own a jeep when the war is over. I hope the car manufacturers who are now toolled for jeep production will not be in too much of a hurry to change back to stream-lined models. I daresay they will find a ready market for great numbers of these little all-service army cars between the time the war ends and the time when mass production can be resumed on regular models. Also, it will help solve a rather critical problem of transportation during the first few months after the war ends, when hundreds of thousands of men will be returning to empty garages.

When Montgomery's British army made its final sweep across north Africa, it captured many German "jeeps," and they now are being used here by Allied soldiers. It really is an insult to the sturdy little American car to call its Hun imitation a "jeep." If the Germans had not done a better job of making weapons than they did in the making of jeeps, this war would have been over long ago. It is a poor substitute for the American car.

* * *

Occasionally, when there is a half day off, I walk down to the native quarter where the street fakirs hold forth. The Arabs do not mind being hoodwinked, as long as it is done by people who speak their own language, and the professional fakirs have more different kinds of small change rackets than a street carnival in USA.

The fellow who intrigues me most is an old man in a turban and a pair of baggy pantaloons. His line of patter has much the same inflection and rhythm as that of an old-school auctioneer in the States. He not only has a ceaseless flow of talk, but he also is an actor and a magician. I cannot understand a word he says—but his pantomime answers all my questions.

He does his act on a side street, and always has an eager crowd around. His properties consist of a miscellaneous collection of pots and cans and funnels—and a precious package of little slips of paper, each with a mysterious inscription on it.

He has discovered the secret of how to produce water in the middle of the desert. He shows just how it is done. The earthen olla in his hands is empty. He turns it upside down and pounds it on the bottom to prove it. Then he brings out one of those magic inscriptions and pastes it on the bottom of the pot with saliva. There are a few mysterious passes and a couple of important words like "open sesame" and behold the pot is over-

flowing with water. He pours it in the pots and cans to prove what a generous supply he has produced. No traveler need fear thirst on the long journey across the Sahara with this formula. The final act of course is to pass through the crowd exchanging those potent slips of paper for 10-franc notes.

It is a profitable racket. And the old Arab is a master salesman. Perhaps it is fortunate I cannot understand his language. I might be tempted to invest in one of those magic formulas myself. There have been a few times on the desert when I was very very thirsty.

* * *

This is being written on the first day of 1944. There is confidence here, among men of all the Allied forces, that Germany will be knocked out of the war long before the end of this year. Important new offensives—as hinted following the Roosevelt-Churchill-Stalin conference—are in the making and may have been launched before this issue of Desert Magazine is printed. We still face many long months of hard costly warfare after Germany surrenders, but we will move into the final half of our task, against the Japs, with a well-trained army and an ample supply of weapons. Having been through a baptism of fire, this no longer is an army of novices in the art of making war. There are brighter days ahead than we have known since Pearl Harbor.

* * *

Generally, I spend New Year's Eve beside an ironwood campfire somewhere out on the desert. It has become a sort of ritual. This year I had hoped to spend it on the Sahara. But pressure of work ruled out that possibility—and so I crawled into my army blankets at 10 p. m. and snored the old year out and the New Year in.

I hope that by next New Year's the army will have turned back the Southern California desert to its rightful owners—the lizards, horned toads, tortoises and desert rats—and that I will be camped out there among them, with a canopy of diamonds overhead and a coyote on a nearby butte howling at the rising moon. That is the world that Nature created—and it is good to be a part of it. Most of the troubles on this earth are man-made, and they are easily forgotten in the companionship of the things that live and grow on the desert.

* * *

Mediterranean winter weather is cold and raw. The Arabs are conditioned to it. They go around in barefeet and rags. But the British and French as well as the Americans are wearing their winter clothes—all they can put on. Buron Fitts of Los Angeles is one of my associates here, and he and I shiver around a little coal-oil stove in the liaison office where we work, and daily make a vow that when we get back to Southern California we will spend the first month out on the desert dunes soaking in the sunshine before we return to our civilian jobs.



Zuni Maid

Mary Weakhee of the Zuñi tribe beading rabbit-foot dolls. Beadwork is a craft in which the Zuñi surpass most other tribes. Their work in making these souvenirs yields them about eight cents a day. Photo by Frasher.

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